

EXHIBIT 11

EXHIBIT 11: DEFENDANTS' TRIAL EXHIBIT LIST

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA)	
PRODUCTS, INC., L'ORÉAL USA S/D, INC.,)	
and REDKEN 5 TH AVENUE NYC, LLC,)	
)	
Defendants.)	

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DEFENDANTS' TRIAL EXHIBIT LIST**

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Pursuant to D. Del. Local Rule 16.3(c)(7), Defendants provide the following list of exhibits they intend to offer at trial, along with Plaintiffs' objections thereto.¹ Although the parties initially agreed to submit a joint trial exhibit list, Plaintiffs changed their position the day before the filing deadline for the Proposed Pre-Trial Order and indicated separate lists were to be submitted. Defendants understand from discussions with Plaintiffs' counsel that the parties intend to continue to work together to submit a combined single exhibit list as soon as it can be finalized and before the pretrial conference. Defendants continue to review their exhibit list to remove duplicative or unnecessary exhibits for various reasons, including exhibits identified on Plaintiffs' list.

¹ A key for Plaintiffs' objection codes is provided at the end of this Exhibit.

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
1	1/11/2017			Declaration Of Sara Lim In Support Of Olaplex's Motion For A Preliminary Injunction	No Objection
2	4/1/2015			Online article entitled "Olaplex: The Science Behind the Strand"	No Objection
3	6/3/2014			Document headed "Meche Salon Los Angeles"	No Objection
4	8/22/2016			Declaration Under 37 C.F.R. Section 1.132 By Dean Christal	No Objection
5	11/22/2016			United States Patent, Patent No.: US 9,498,419 B2 w/o certificate of correction	No Objection
6	2/5/2015			United States Patent Application Publication US 2015/0034117 A1	No Objection
7	9/17/2015			Modern Salon article entitled "Hero Complex: An Interview with Dean Christal of Olaplex"	No Objection
8	5/8/2014	OLA_0000015590	OLA_0000015590	E-mail dated 5-8-14 re "Allure magazine Breakthroughs feature"	No Objection
9	4/14/2015			Document headed "3/23/2017, (4) santy olaplex - Facebook Search"	No Objection
9A	8/8/2014			Document headed "3/24/2017, Olaplex - We would like you to meet Joe Santy from... | Facebook	No Objection
10	8/13/2016	OLA_0000025375	OLA_0000025376	E-mails dated 8-13-16 re "Monday's launch email"	No Objection
11	12/6/2012	OLA_0000025876	OLA_0000025878	E-mails dated 12-3-12 and 12-6-12 re "Working Agreement 11-30-12/5% Updated"	No Objection
12	3/20/2017			First Amended Complaint	No Objection
13	5/20/2014	OLA_0000000027	OLA_0000000031	LiQWD Inc. License Agreement to Olaplex, LLC	No Objection
14	1/11/2017			Declaration Of Tiffany Walden In Support Of Olaplex's Motion For A Preliminary Injunction	No Objection
15	3/21/2017			Document headed "3/21/2017, Tiffany Walden - Olaplex - Vanguard Law Magazine"	No Objection
16	1/14/2003			Document entitled "(19) Korean Intellectual Property Office (KR), (12) Unexamined Published Patent Application (A)" 2003-003970 to Kim et al.	No Objection
17	12/29/2014	OLA_0000025883	OLA_0000025885	E-mails dated 12-7-12 and 12-29-14 re "Agreement with Chemist #1/Olaplex"	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
18	10/23/2016	OLA_0000025890	OLA_0000025891	E-mails dated 12-6-12, 11-14-15, and 10-23-16 re "Working Agreement 12-6-2012"	No Objection
19	12/6/2012	OLA_0000025886	OLA_0000025889	Mutual Non-Disclosure Agreement dated 12-6-12	No Objection
20	7/17/2013	OLA_0000025879	OLA_0000025882	Mutual Non-Disclosure Agreement dated 7-17-13	No Objection
21	5/16/2014	OLA_0000000131	OLA_0000000134	Document: Pressly and Hawker Patent Assignment dated 8-28-2014	No Objection
22	2/24/2017			Document entitled "Intellectual Property Theft	No Objection
23	3/15/2016	OLA_0000024712	OLA_0000024713	Email from A. Sutin to T. Walden, dated March 15, 2016	No Objection
24	4/13/2015			Article entitled "How Does Olaplex Hair Treatment Work?"	No Objection
25	1/12/2017			Declaration Of Craig Hawker, Ph.D. In Support Of Olaplex's Motion For A Preliminary Injunction	No Objection
26				Provisional Application For United States Letters Patent By Eric D. Pressly and Craig J. Hawker For Hair Treatment Compositions And Methods	No Objection
27	10/6/2014	OLA_0000023756	OLA_0000023757	Letter to Dean Christal from Personal Care Products Council dated 10-6-2014	No Objection
28	8/4/2015			U.S. Patent Number 9,095,518 entitled "Methods For Fixing Hair And Skin"	No Objection
29	12/6/2012	OLA_0000025886	OLA_0000025889	Mutual Non-Disclosure Agreement	FO, H, AU
30	3/10/2014	OLA_0000015035	OLA_0000015040	Document labeled 29261 dated 3-10-2014 re: Hair swatche, untreated, control sample, "Fractured and exhibited 'necking' failure after tensile test"	No Objection
31	1/25/2017	OLA_0000017608	OLA_0000017608	Emails dated 1-25-17 re "another"	No Objection
32	1/12/2017			Declaration of Edward T. Borish, Ph.D., in support of Olaplex's Motion For a Preliminary Injunction	H
33				Exhibit G to Declaration of Edward T. Borish, Ph.D., in support of Olaplex's Motion For a Preliminary Injunction	No Objection
34				Exhibit E to Declaration of Edward T. Borish, Ph.D., in support of Olaplex's Motion For a Preliminary Injunction	No Objection
35				Intentionally Left Blank	

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36				Exhibit C to Declaration of Edward T. Borish, Ph.D., in support of Olaplex's Motion For a Preliminary Injunction	No Objection
37				Exhibit D to Declaration of Edward T. Borish, Ph.D., in support of Olaplex's Motion For a Preliminary Injunction	No Objection
38	10/26/2015			Copy from the file history for the '419 patent for declaration under 37 CFR Section 1.132 of Eric D. Pressly	H
39				Intentionally Left Blank	
40				Intentionally Left Blank	
41	1/11/2017			Intentionally Left Blank	
42				Exhibit A (CV of N. Mody)	No Objection
43				Notebook brought by Ms. Mody to deposition 5-1-2018	No Objection
44A	3/20/2017			Notice of Subpoena re: Eric Pressly	No Objection
45	12/29/2014	OLA_0000025883	OLA_0000025885	E-mail thread beginning with an e-mail from Eric Pressly to Dean Christal dated December 7, 2012, subject: Re: Working agreement 12-6-2012	No Objection
46	4/3/2017			Hand drawing by Dr. Pressly from deposition on 4-3-2017	No Objection
47				Intentionally Left Blank	
48	9/5/2016	OLA_0000015682	OLA_0000015683	E-mail from Dean Christal to Eric Pressly dated 9-5-2016, subject: Small change in last paragraph, with attachment	No Objection
49				Intentionally Left Blank	
54				Intentionally Left Blank	N/A
55				Intentionally Left Blank	N/A
56				Intentionally Left Blank	N/A
57				Intentionally Left Blank	N/A
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61				Intentionally Left Blank	N/A

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62				Intentionally Left Blank	N/A
64				Intentionally Left Blank	N/A
65				Intentionally Left Blank	N/A
86	10/3/2016	LO_USA0000374	LO_USA0000376	Document re: Bond Ultim8 Launch Details	No Objection
87	10/31/2016	LO_USA0000416	LO_USA0000417	Email from N. Vissat to D. Mann and Z. Baris, dated 10-31-2016	No Objection
88	4/7/2017			Declaration of W. Todd Schoettelkotte in Support of Defendant's Opposition to Plaintiffs' renewed motion for preliminary injunction	H
89	5/15/2017			Printout from SalonCentric website	No Objection
90	12/31/2016			Document entitled "Olaplex, LLC QTY & Sales Report for USA -- Aurora Beauty Sup April 1, 2015 - December 31, 2016"	No Objection
91	8/20/2015	LO_USA0000271	LO_USA0000273	Document entitled "Bond Expert | Lightener and Color Additive"	No Objection
92	2/14/2016	LO_USA0000110	LO_USA0000111	Document entitled "PPD Bonder Target Pad: July 2016"	No Objection
93	6/17/2015	LO_USA0000084	LO_USA0000087	Document entitled: "A New Market Category: The Bond Builders"	No Objection
94	7/29/2015	LO_USA0000366	LO_USA0000377	Chart re: Hair Protecting Additives	No Objection
95	11/26/2016	LO_USA0000211	LO_USA0000211	Document entitled "Redken: #1 Big Bet: PH Bonder"	No Objection
96				Intentionally Left Blank	N/A
97	6/30/2015			Kline Group report June 2015	H; FO
99	5/18/2017			Defendants' First Supplemental Objections and Responses to Plaintiffs' First Set of Interrogatories	No Objection
103				Intentionally Left Blank	
104	2/10/2015	LO_USA0000864	LO_USA0000865	Emails ending with email from F. Sow to G. Provot et al.; subject: IMG-20150203-00048.jpg / BRAZILIAN BOND BUILD 3R	H; CP; FO
106	6/15/2016	LO_USA0000144	LO_USA0000158	Document entitled "Officialization Intl." re Redken pH Bonder Step 1	No Objection
113	5/25/2017			Rebuttal Declaration of Nisha Mody, Ph.D., in Support of Olaplex's Motion for a Preliminary Injunction	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
113A				Intentionally Left Blank	N/A
114	4/26/2018			Supplemental Declaration of Nisha Mody, Ph.D., in Support of Olaplex's Motion for a Preliminary Injunction	No Objection
115				Exhibit W to Declaration re: screen shot of webpage from Reddit	No Objection
116	4/30/2018			Plaintiff's First Supplemental Objections and Response to Defendants' Fifth Interrogatory	No Objection
117				Exhibit G to declaration re: chart entitled "Olaplex Sales, By y Year - Top 25 Distributors (2015-2018)	No Objection
118				Exhibit B to declaration re: Chart Projected Sales 2015-2016 of various Bonder products	No Objection
119A	5/10/2017			Defendants' Objections and Responses to Plaintiffs' Second Interrogatory	H; 105
120A	4/26/2018			Supplemental declaration of Edward T. Borish, Ph.D. in support of Olaplex's renewed motion for a preliminary injunction	H
121A	5/25/2017			Exhibit B to declaration; copy of Rebuttal declaration of Edward T. Borish, Ph.D. in support of Olaplex's renewed motion for preliminary injunction, Volume 1 of 2	H
122A				Intentionally Left Blank	
123				Intentionally Left Blank	N/A
124A	5/8/2017			Exhibit AF-28 to Declaration; Document re: webpage of Uberliss ingredients	FO, H
125A	6/1/2016			Document of webpage entitled, "U/Blog A look into the science behind the Uberliss Bond Treatment"	H; FO
126A				Intentionally Left Blank	
127A	3/29/2018			Document entitled Cosmetics - Cosing [EC Regulation (v.2)] re: bis-aminopropyl diglycol dimaleate	H; FO; CP
128A	8/4/2015			United States Patent 9095518 with certificate of correction	COMP

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129A	1/14/2003			Korean Patent Publication No. 2003-003970 to Kim et al.	H
130A				Appendix 2 to declaration entitled Olaplex v. L'Oreal USA Documents Considered	H
131A	4/27/2018			Schoettelkotte Decl. Exhibit "G"	H; FO
132				Intentionally Left Blank	N/A
133	5/21/2018			Declaration of W. Todd Schoettelkotte in Support of Defendant's Opposition to Plaintiffs' renewed motion for preliminary injunction	H
134A	1/11/2017			Declaration of Nisha Mody, Ph.D., in Support of Olaplex's Motion For a Preliminary Injunction	No Objection
135A	5/25/2017			Rebuttal Declaration of Nisha Mody, Ph.D., in Support of Olaplex's Motion for a Preliminary Injunction	No Objection
136A	4/26/2018			Supplemental Declaration of Nisha Mody, Ph.D., In Support of Olaplex's Renewed Motion for a Preliminary Injunction	No Objection
137A	5/7/2018			Shop By Brand, 149 Brands, from www.cosmoprofbeauty.com	H; FO; REL
137	9/6/2016	OLA_0000064068	OLA_0000064072	Email dated 9-6-2016 FWD: Our new shelf with image of shelf attached	No Objection
138				Shop By Category, Hair Color from www.cosmoprofbeauty.com	No Objection
138A	1/11/2017			Declaration Of Tiffany Walden In Support Of Olaplex's Motion For A Preliminary Injunction	No Objection
139				Filter by Brand www.cosmoprofbeauty.com	H; FO; CP; REL
139A	11/22/2016	OLA_0000064056	OLA_0000064056	Email from L. Bobitt to J. Schwartz et al. dated 11-22-2016 re: Another Basher	No Objection
140A	5/3/2018 (5/22/2018)			Products Found (19), search for "bonders" from www.cosmoprofbeauty.com	H; FO; CP; REL
141A	5/7/2018 (6/12/2018)			Moroccanoil ChromaTech Salon Package from www.cosmoprofbeauty.com	H; FO; CP; REL

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
142A	5/7/2018 (6/12/2018)			Celeb Luxury BondFix Conditioner from www.cosmoprofbeauty.com	H; FO; CP; REL, NVP, DIS, AU, FO, H
143A	5/7/2018			Schwarzkopf Professional BlondMe Bond Enforcing Premium Lightener 9+ from www.cosmoprofbeauty.com	H; FO; CP; REL
144A	5/7/2018			Schwarzkopf Professional BlondMe - Keratin Restore Bonding Conditioner - All Blondes from www.cosmoprofbeauty.com	H; FO; CP; REL
145A	5/7/2018			Wella, WellaPlex Large Kit from www.cosmoprofbeauty.com	H; FO; CP; REL
146A	5/7/2018			Review by Ms.J@Catch 22 Salon re: Wellaplex, 03/27/18 from www.cosmoprofbeauty.com	H; FO; CP; REL
147	5/7/2018			Farouk Transformation Bonder Formula A for Virgin/Resistant Hair from www.cosmoprofbeauty.com	H; FO; CP; REL, NVP, DIS, AU, FO, H
147A	4/8/2016	LO_USA0002623	LO_USA0002626	Email from H. Kunetx to L. Marino dated 4-8-2016; Subject: "Re: Bond protectors"	No Objection
148A	5/7/2018			Farouk Transformation Bonder Formula B for Colored/Chemical Treated Hair from www.cosmoprofbeauty.com	H; FO; CP; REL
148	11/26/2016	LO_USA0002698	LO_USA0002749	Redken presentation	No Objection
149A	5/7/2018			Matrix Bond Ultim8 Travel Kit from www.cosmoprofbeauty.com	H; FO; CP
150A	5/7/2018			Farouk Transformation Bonder Formula C for Highlighted, Porous/Fine Hair from www.cosmoprofbeauty.com	H; FO; CP; REL, NVP, DIS, AU, FO, H
151A	5/7/2018			Schwarzkopf Professional IGORA Bond Sealer from www.cosmoprofbeauty.com	H; FO; CP; REL
152A	5/7/2018			Goldwell USA BondPro+ Salon Kit from www.cosmoprofbeauty.com	H; FO; CP; REL
153A	5/7/2018			Reviews, Best Bond Builder by BellasDad, 01/12/17 from www.cosmoprofbeauty.com	H; FO; CP; REL

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
155	4/23/2017 (4/30/2015)	LO_USA0007909	LO_USA0007915	Document entitled "Olivia Project Executive Summary" dated 4-30-2015	No Objection
156A	9/4/2014			Heavy Lifting: Olaplex Takes the Breakage out of Lifting - Career - Modern Salon from www.modernsalon.com	H, FO
157	2/19/2016 (2/15/2018)	OLA_0000014030	OLA_0000014035	Email from J. Santy to Darcy Christal et al. dated 2-19-2016; subject: "FAQs Section 1"	H, REL
157A	2/15/2018			US Patent Pub. No. US 2018/0042830 A1	No Objection
158	7/10/2014			Olaplex Instagram Post	H, FO, Q
158A	8/31/2017			US Patent Pub. No. US 2017/0246094 A1	No Objection
159A	9/1/2016	OLA_0000015687	OLA_0000015692	Email - Here's the Word Files for the Artwork You Requested	H, FO, REL
160	11/7/2013	OLA_0000063745	OLA_0000063747	Email - Dr. Oz Magazine	H, REL
160A	5/21/2018			Declaration of Benny D. Freeman, Ph.D. In Support of Defendants' Opposition to Plaintiffs' Motion for a Preliminary Injunction	H
161	5/16/2006	OLA_0000063641	OLA_0000063663	Presentation - Olaplex The Future of Chemical Services (Hefford Decl. Exhibit "N")	H; Incorrect Descriptor; REL
161A	5/16/2006			Hefford Decl. Exhibit N: United States Patent Ogawa et al, 7044986 B2	H
162	2/19/2016	OLA_0000014040	OLA_0000014041	Email - Tweaked Salon Menu	REL
162A				Chapter 6: Sequestrants in Food by Thomas E. Furia	NVP, DIS, FO, H
163	4/5/2018			Defendants' Notice of Deposition of Olaplex, LLC Pursuant to Rule 30 (b) (6) - Related to Motion for Preliminary Injunction	No Objection
163A				Freeman Decl. Exhibit "B" : cv of Benny Freeman	FO, H
164				Excerpt of Rough Draft, Joe Santy May 14, 2018, Deposition	
164A	7/28/2016	LO_USA0008237	LO_USA0008244	Document entitled: "L'oreal Professionnel Smartbond-Communications Desk" dated 7-28-2016	No Objection
165	4/26/2018			Declaration Of Tiffany Walden In Support Of Olaplex's Renewed Motion For Preliminary Injunction	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
166	3/10/2014			Trademark/Service Mark Statement of Use for "Bond Multiplier"	No Objection
167A	5/7/2018			Document: Olaplex Distributor List from Olaplex Website dated 5-7-2018	H, FO
167		DOLDEN 0001	DOLDEN 0015	Text messages between Roger Dolden and Dean Christal	No Objection
168A	6/10/2018			Printout from the Bartlett, Pringle & Wolf website	H, FO, REL
168C	5/13/2015	LO_USA0028275	LO_USA0028277	Email from R. Dolden to F. Roze dated 9-2-2015; subject: Project Olivia - Confidential	No Objection
168D	5/15/2018			Olaplex Net Sales, by Year – Top 25 Distributors	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO
169A	6/4/2018			Declaration of Lisa Lorden in Support of Olaplex's Renewed Motion for Preliminary Injunction	No Objection
170A	4/5/2018			Defendants' Second Set of Interrogatories to Plaintiffs Related to Motion for Preliminary Injunction	No Objection
170	10/15/2015	LO_USA0026934	LO_USA0026935	Email from R. Dolden to S. Habif et al. dated 10-15-2015; subject: Olaplex IP	No Objection
171B	6/11/2015	LO_USA0004298	LO_USA0004300	Email from Dean Christal to R. Dolden dated 6/11/15; subject: Project Olivia	No Objection
171	10/15/2015	LO_USA0049928	LO_USA0049928	Email from S. Habif to R. Dolden dated 10-15-2015; subject: RE: Olaplex IP	No Objection
172				Intentionally Left Blank	
173A	5/16/2017			Certificate of Correction for U.S. Patent No. 9,498,419	No Objection
174A				Freeman Declaration Exhibit J- Robbins, Chemical and Physical Behavior of Human Hair" dated 2012	H
175A				Freeman Declaration Exhibit K- Johnson, Hair and Hair Care dated 1997	H

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
175	3/30/2015	LO_USA0029197	LO_USA0029199	Email from H. Kunetz to R. Dolden dated 3-30-2015; subject: Confidential: Olaplex	No Objection
176A				Intentionally Left Blank	
177A				Freeman Declaration Exhibit I- Society of Cosmetic Chemists, Monograph, Permanent Hair Dyes, dated	FO, H, REL
177	7/4/2015	LO_USA0026528	LO_USA0026539	Project Olivia presentation dated 7-4-2015	No Objection
178	4/16/2015	LO_USA0028233	LO_USA0028233	Email from R. Dolden to P. Sharnsky dated 4-16-2015; subject: Project Olivia	No Objection
181	5/20/2015	LO_USA0035071	LO_USA0035074	Email frm D. Allard to R. Dolden dated 5-20-2015; subject: Olivia meeting May 19th - R&I assessment, with attachment (R&I assessment following Olivia meeting on May 19th)	No Objection
182	5/22/2015	LO_USA0035264	LO_USA0035270	Email from V. Niz to F. Cerventes et al. dated 5-22-2015; subject: Project Olivia - Summary of Confidentiality Requirements and Data Room-Clean Room Access	No Objection
186	4/29/2015	LO_USA0028663	LO_USA0028664	Email from R. Dolde to A. Verhulst-Santos et al. dated 4-29-2015; subject: RE: Project Olivia Status --- Confidential	No Objection
187	5/13/2015	LO_USA0028264	LO_USA0028273	Email from R. Dolden to H. Kunetz dated 5-13-2015; subject: Project Olivia - Confidential	No Objection
188	5/15/2015	OLA_0000065778	OLA_0000065783	Confidentiality Agreement dated 5-15-2015	No Objection
189	5/15/2015			Confidentiality Agreement dated 5-15-2015	No Objection
190	4/30/2015	LO_USA0026738	LO_USA0026740	Email from R. Dolden to F. Roze dated 4-30-2015; subject: FW: Project Olivia Status --- Confidential	No Objection
192	6/29/2015	LO_USA0035379	LO_USA0035380	Email from K. O'Rourke to R. Dolden dated 6-29-2015; subject: RE: Olaplex	No Objection
193	5/19/2015	LO_USA0060088	LO_USA0060093	Email from M. Gringauz to S. Habif et al. dated 5-19-2015; subject: Project Olivia Summary of Confidentiality Requirements	No Objection
194	9/2/2015	LO_USA0028284	LO_USA0028306	Email from R. Dolden to V. Pivet et al. dated 5-22-2015; subject: Project Olivia - Meeting with Owner/Scientist - Strictly Confidential	No Objection

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195	6/11/2015	LO_USA0028218	LO_USA0028220	Email from R. Dolden to D. Christal dated 6-11-2015; subject: Project Olivia	No Objection
196	6/17/2015	LO_USA0030672 LO_USA0059967	LO_USA0030672 LO_USA0059984	Email from H. Kunetx to R. Dolden dated 6-17-2015; subject: FW: update data	No Objection
197	7/1/2015	LO_USA0066944	LO_USA0066970	Emails ending with email from R. Dolden to K. O'Rourke dated 7-1-2015; subject: FW: Olivia BP V 1-1-0 with attachment (Project Olivia dated 7-1-2015)	No Objection
199	8/27/2014	LO_USA0008197	LO_USA0008197	Email frm M. Zellner to K. Hamilton et al. dated 8-27-2014; subject: Olaplex Crosslinker.pptx with attachment	No Objection
201	6/10/2015	LO_USA0039744	LO_USA0039746	Email from M. Soliman to C. Goget et al. dated 6-10-2015; subject: Topline EV1506-0296: Olaplex 3x MTT - Maleic Acid and Diamine Investigation	No Objection
202	6/10/2015	LO_USA0065454	LO_USA0065456	Email from K. Hamilton to C. Goget dated 6-10-2015; subject: RE: AU1506-0031 - Request for Cysteic Acid	No Objection
203	6/22/2015	LO_USA0039233	LO_USA0039235	Email from C. Goget to K. Hamilton dated 6-22-2015; subject: TR: "BONDING" project - Action plan for next weel	No Objection
204	6/22/2015	LO_USA0065361	LO_USA0065362	Email from F. Boulinaeu to S. Loisel-Joubert et al. dated 6-22-2015; subject: RE: maleic acid - diamine (monoethanolamine) in bleach	No Objection
205	7/17/2015	LO_USA0063822	LO_USA0063823	Email from F. Boulinaeu to G. Provot et al. dated 7-17-2015; subject: Analytical chemistry action plan for Bonding - 17 Jul 2015	No Objection
206	9/8/2015	LO_USA0039877	LO_USA0039894	Presentation entitled "Bonding September 2015"	No Objection
207				U.S. Provisional Patent Application No. 62/259564	No Objection
211	9/10/2018	LO_USA0067926	LO_USA0068083	Laboratory Notebook L10005 (Danielski)	No Objection
212	8/25/2018	LO_USA0022327	LO_USA0022419	Laboratory Notebook L11145(Boulineau)	No Objection
213	1/15/2015	LO_USA0039236	LO_USA0039239	Email from C. Goget to K. Hamilton dated 1-15-2015; subject: TR: Discussion on hydrolyzed bismaleimido	No Objection
214	7/23/2015	LO_USA0067297	LO_USA0067303	Memo re: Formation of sulfur-nitrogen bonds with diamines and cystine under oxidative bleaching dated 7-23-2015	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
215	4/15/2015	LO_USA0039453	LO_USA0039456	Email from K. Hamilton to H. Lam et al. dated 4-15-2015; subject: RE: FOX - RM and safety Action Plan	No Objection
216	1/5/2015	LO_USA0065366	LO_USA0065383	Email from C. Goget to Jean-Marc Ascione et al dated 1-5-2015; subject: TR: Cystic acid level changes with attachment	No Objection
217	5/1/2015	LO_USA0063799	LO_USA0063809	Email from F. Boulineau to C. Shaw dated 5-1-2015; subject: Olaplex 1st generation analytical report with attachment (Memo dated 5-1-2015 AU1408-0043-Ananalysis of Olaplex No1 and No2 (First Generation)	No Objection
220	10/18/2018			Notice of Second Amended Subpoena Duces Tecum and Ad Testificandum to the University of California, Santa Barbara	No Objection
221	6/23/1958	UCSB000013	UCSB000019	General University Policy Regarding Academic Appointees	No Objection
222	7/1/2014	UCSB000020	UCSB000036	General University Policy Regarding Academic Appointees	No Objection
223	1/9/2015	UCSB000386	UCSB000386	Email from C. Hawker to E. Pressly dated 1-9-2015; subject: Checks	H; FO; REL
224	1/26/2015	UCSB000886	UCSB000889	Email from C. Hawker to E. Pressly dated 1-26-2015; subject: Re: LIQ 100 CIP - the Examiner indicated that claim 9 is allowable, and would search for some additions specific compounds too - please review and respond	No Objection
225	3/3/2003	UCSB000150	UCSB000166	Guidance for Faculty and Other Academic Employees on Issues Related to Intellectual Property and Consulting dated 3-3-2003	No Objection
226	8/1/2014	UCSB000167	UCSB000171	Disclosure and Record of Invention Form	H; FO; REL
227		UCSB000236	UCSB000237	UCSB State Oath of Allegiance	H; FO; REL
228	11/16/2011	UCSB000238	UCSB000240	Amendment to Patent Acknowledgment/Agreement	H; FO; REL
229	11/18/2014	UCSB000425	UCSB000426	Emails ending with C. Hawker to C. Hawker dated 11-18-2014; subject: Fw: Working Agreement 12-6-2012	No Objection

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230	11/14/2015	UCSB000704	UCSB000705	Email from C. Hawker to D. Christal dated 11-14-2015; subject: Fwd: Serendipity	No Objection
231	2/19/2015	UCSB000241	UCSB000250	2015 Dreyfus Prize	No Objection
232		UCSB000251	UCSB000272	Presentation entitled "Central Role of Chemistry"	No Objection
233		UCSB000342	UCSB000372	Presentation entitled "Olaplex Hair Care System"	No Objection
234		UCSB000373	UCSB000384	Presentation entitled "New Hair Care System"	No Objection
235	6/1/2015	UCSB000389	UCSB000389	Email from C. Hawker to J. Schwartz dated 6-1-2015; subject: Facilities use	H; FO; REL
236	12/23/2014	UCSB000412	UCSB000421	Email from C. Hawker dated 12-23-2014: Fw: Olaplex RIPT test results with attachments	No Objection
237	2/24/2010	UCSB000197	UCSB000208	Business and Finance Bulletin G-39	H; FO; REL
238		UCSB000596	UCSB000610	Copy of Claims in LIQ 100 CIP PCT	No Objection
239	6/26/2013	OLA_0000025911	OLA_0000025912	Email from E. Pressly to D. Christal dated 6-26-2013; subject: Fwd: Disclosure of External Activity	No Objection
240	10/10/2018			Declaration of Benny D. Freeman, Ph.D. In Support of Defendants' Opening Brief on Claim Construction	No Objection
240A		BTC_PL 000681.001	BTC_PL 000681.002	Article from Bhind the Chair entitled "This Could (And Will) Change Everything"	No Objection
241				Freeman Decl. Exhibit "A" Materials Considered	H
241A	1/28/2015	BTC_PL 0006898	BTC_PL 0006899	Email from M. Rector -Gable to Mary-behindthechair.com dated 1-28-15; subject: Fwd: Consulting Services Agreement	H; REL
242		BTC_PL 006900	BTC_PL 006906	Consulting Services Agreement between BehindTheChair and Olaplex	H; REL; BER
243	8/20/2014	BTC_PL 007098	BTC_PL 007100	Email from D. Christal to Mary Rect-Gable dated 8-20-2014; subject: Olaplex Agreement	H; REL
244	11/13/2014	BTC_PL 204060	BTC_PL 204063	Email from Mart@behindthechair to L. Zehil dated 11-13- 14; subject: Re: Letter of Intent	H; REL
245	8/23/2014	BTC_PL 204136	BTC_PL 204137	Email from lou@palmcapitaladvisors to Mary Rector-Gable dated 8-23-2014; subject: Re: Fwd: Letter of Intent	H; FO; REL
246	8/24//2014	BTC_PL 204420	BTC_PL 204421	Email from Mary Rector-Gable to Lou Capital Advisors dated 8-24-2014; subject: Fwd: Consulting Services Agreement	H; FO; REL

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247	8/23/2014	BTC_PL 204138	BTC_PL 204140	Email from lou to Mary Rector-Gable dated 8-23-2014; subject: Re: Fwd: LLC-	H; FO; REL
248	5/12/2014	BTC_PL_001668	BTC_PL_001672	Email from Mary Rector-Gable to Dana dated 5-12-2014; subject: Fwd: Olaplex	H; FO; REL; CP
250	10/5/2016	OLA_0000016485	OLA_0000016487	Email from G. Auer to D. Christal dated 10-5-2016; subject: copy I just sent in a word doc	H; FO
251	8/23/2016	OLA_0000024719	OLA_0000024723	Email from G. Auer to T. Walden dated 8-23-2016; subject: Re: Olaplex's special offer for you.	H; REL
252	12/11/2018			Resume of Gregory Auer	H; FO; REL
253	9/11/2016	OLA_0000015667	OLA_0000015668	Email from D. Christal to M. Berkshire dated 9-11-2016; subject: Fwd: New usage email blast. Please review	No Objection
254	8/26/2016	OLA_0000013587	OLA_0000013587	Email from G. Auer to D. Christal dated 8-26-2016	H; FO; REL
271	12/5/2018			Defendants' Notice of Deposition of Vanessa Schneider	No Objection
272	12/6/2018			Vanessa Schneider LinkedIn profile	No Objection
273	5/7/2016	OLA_0000077099	OLA_0000077149	Email from V. Schnieder to T. Waldon dated 6-7-2016; subject: Re: Employee Handbook and Related Documents	No Objection
274		OLA_0000095691	OLA_0000095695	Olaplex LLC nondisclosure agreement and assignment	No Objection
275	8/16/2015	OLA_0000023295	OLA_0000023298	Email from kimberly@olaplex.com to martine Olaplex dated 8-16-2015; subject: Fwd: Relaxer Piece	No Objection
276	6/21/2015	OLA_0000016060	OLA_0000016062	Email from D. Christal to AB McDonald dated 6-21-2015; subject: Fwd: An important discussion I think it is important for you to see.	No Objection
277	4/1/2016	OLA_0000077106	OLA_0000077148	Olaplex LLC Employee Handbook April 2016	No Objection
278		LO_USA0038876	LO_USA0038879	Facebook post	H; FO; AU
280	12/12/2018			Dustin Stone Twitter Account	No Objection
281	12/12/2018			Dustin Stone LinkedIn profile	No Objection
282	10/3/2016	OLA_00000953591	OLA_00000953634	Email from T. Waldon to D. Stone dated 10-3-2016; subject: Welcome to Olaplex - Dustin Stone	No Objection
283	10/6/2015	OLA_0000071533	OLA_0000071533	Email from J. Iturralde to J. Schwartz dated 10-6-2015; subject: RE: Stylist comments about Charlotte	No Objection

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284	12/16/2015	OLA_0000074726	OLA_0000074727	Email from D. Stone to Martine Olaplex dated 12-16-2015; subject: Re:	No Objection
285	9/9/2016			September 2016 Brazilian B3 Salon Geek Post	H
286	11/22/2016	OLA_0000024572	OLA_0000024581	Emails ending with email from T. Waldon to Martine Olaplex; subject: Re: Salon Outreach Update	No Objection
287	9/7/2016			September 2016 Olaplex new directions of use: am I the only one who's not happy? Salon Geek Post	No Objection
290	12/5/2018			Defendants' Notice of Deposition of Jordan Alexander	No Objection
291	12/11/2018			Jordan Alexander LinkedIn profile	No Objection
292	11/29/2017	OLA_0000067577	OLA_0000067580	Witness Statement of Jordan Alexander	No Objection
293	4/1/2016	OLA_0000077106	OLA_0000077147	Olaplex LLC Employee Handbook	No Objection
294	4/28/2016	OLA_0000093494	OLA_0000093498	Email from J. Alexander to T. Walden dated 4-28-2016; subject: Re: Employee Handbook and Related Documents	No Objection
295	7/15/2015	OLA_0000023103	OLA_0000023105	Email from J. Alexander to Darcy Christal dated 7-15-2015; subject: Re: Olaplex Contact Form | Ivy	No Objection
296A		OLA_0000067480	OLA_0000067480	Article entitled "Speed Up Highlighting Without Compromising Quality" from behindthechair.com	No Objection
297	8/7/2015	OLA_0000017720	OLA_0000017720	Email from J. Alexander to E. Pressly dated 8-7-2015; subject: Response	No Objection
298	5/23/2015	OLA_0000016695	OLA_0000016697	Email from Ab McDonald to Martine Olaplex dated 5-23-2015; subject: Re: KNOCK OFF POST	No Objection
299	5/16/2016	OLA_0000082661	OLA_0000082661	Email from rececca@olaplex to Mason Berkshire dated 5-16-2016; subject: Re: Outgoing emails to distributors regarding passwords	No Objection
300	9/21/2015	OLA_0000016618	OLA_0000016620	Email from K. Helmers to D. Christal dated 9-21-2015; subject: Fwd: Reply From Nubond	No Objection
301	6/15/2014			Instagram post by Jordan Alexander	No Objection
302	11/7/2013	OLA_0000063745	OLA_0000063745	Email from J. Morehouse to dean@liqwd christal dated 11-7-2013; subject: Dr. Oz magazine	H; CP, REL
303	9/18/2014	OLA_0000067892	OLA_0000067892	Email from JSanty3@aol.com to bpchampion@gmail.com dated 9-18-2014; subject: Olaplex and Perming	H; CP

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304	1/24/2015	OLA_0000015102	OLA_0000015102	Email from Joe Santy to D. Christal dated 1-24-2015; subject: Re: First text Olaplex vs. BB	No Objection
305	8/16/2015	OLA_0000023295	OLA_0000023298	Emails from kimberly@olaplex.com to Martine Olaplex dated 8-16-2015; subject: Fwd: Relaxer Piece	H; FO
306	7/17/2013	OLA_0000063667	OLA_0000063668	Emails from D. Christal to jsanty3@aol.com dated 7-17-2013; subject: Re: Liqwd Perm NDA	No Objection
307	9/1/2016	OLA_0000015687	OLA_0000015687	Email from D. Christal to J. Mesry dated 9-1-2016; subject: Fwd: Here's the word files for the artwork you requested.	H; REL
308	9/24/2014	OLA_0000015331	OLA_0000015339	Email from J. Schwartz to D. Christal dated 9-24-2014; subject: FW: Sarasota Exam Results and OLAPLEX Results	H; FO
331	11/27/2018			Subpoena to Testify at a Deposition in a Civil Action	No Objection
332	2/27/2014			Instagram post	No Objection
333	2/23/2014	OLA_0000067373	OLA_0000067373	Instagram post by Tracey Cunningham	No Objection
334	2/18/2014	OLA_0000109311	OLA_0000109312	Email from T. Cunningham to Dean@Liqwd.com dated 2-18-2014; subject: Re: Colorists in your salon	No Objection
335	2/21/2014	OLA_0000109313	OLA_0000109313	Email from T. Cunningham to dean@liqwd.com dated 2-21-2014; subject: Re: Your Olaplex #post	No Objection
336		OLA_0000024543	OLA_0000024543	"This Could (And Will) Change Everything," article by Mary Rector-Gable in behindthechair.com	No Objection
337	5/14/2014	OLA_0000107060	OLA_0000107061	Email from T. Cunniham to dean@liqwd.com dated 5-14-2014; subject: Re: Can you READ NOW!	No Objection
338	2/26/2014			Instagram post by Tracey Cunningham	No Objection
339	2/21/2014			Wordpress post "Tracey Cunningham on Chrissy Teigen's Hair"	No Objection
340	2/21/2014	OLA_0000067402	OLA_0000067402	Instagram post by Tracey Cunningham	No Objection
341	2/18/2014			Instagram post by Tracey Cunningham	No Objection
342	3/3/2014			Instagram post by Tracey Cunningham	No Objection
343	3/6/2014	OLA_0000067388	OLA_0000067388	Instagram post by Tracey Cunningham	No Objection
344	3/8/2014	OLA_0000067397	OLA_0000067397	Instagram post by Tracey Cunningham	No Objection
345	9/17/2015	LO_USA0072107	LO_USA0072110	Article "Hero Complex: An Interview with Dean Christal of Olaplex," by Anne Moratto dated 9-17-2015	No Objection

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346	2/18/2014	OLA_0000106215	OLA_0000106215	Email from T. Cunningham to dean@liqwd.com dated 2-18-2014; subject: Re: Colorists in your salon	No Objection
347	3/26/2014	OLA_0000067379	OLA_0000067379	Instagram post by Tracey Cunningham	No Objection
348	4/25/2014			Instagram post by Tracey Cunningham	No Objection
349	5/5/2014			Instagram post by Tracey Cunningham	No Objection
350	5/6/2014			Instagram post by Tracey Cunningham	No Objection
351	5/14/2018			Second amended complaint	No Objection
352	10/26/2018			Plaintiffs' Answering Brief in Opposition to Defendants' Motion for Redactions	No Objection
353	11/22/2016	OLA_0000077009	OLA_0000077039	Email from T. Walden to paul.ziobro@wsj.com dated 11-22-2016; subject: Olaplex suing L'Oreal for Patent Infringement	No Objection
354	11/21/2018			Defendants' Notice of Deposition of Plaintiffs Pursuant to Rule 30(b)(6)	No Objection
355	1/6/2017	OLA_0000024562	OLA_0000024563	Email from T. Walden to D. Christal; subject: Re: L'Oreal suit	No Objection
356	1/4/2017	OLA_0000017609	OLA_0000017610	Email from M, McKenna to E. Pressly dated 1-4-2017; subject: Re: Checking in, NYE edition	No Objection
357	11/23/2016			Article entitled "L'Oreal sued by California startup over patent" in www.marketwatch.com dated 11-23-2016	No Objection
358	4/28/2016	OLA_0000082785	OLA_0000082840	Email from T. Walden to A. Maslo et al. dated 4-28-2016; subject: Employee Handbook and Related Documents	No Objection
359	12/1/2009			16 C.F.R. § 225.5 Disclosure of material connections	No Objection
360	3/5/2015	OLA_0000106909	OLA_0000106916	Email from E. Holz to dean@olaplex.com dated 3-5-2015; subject: Re: HAIR FORUMS - CORRECTED	No Objection
361	3/9/2015	OLA_0000106917	OLA_0000106924	Email from E. Holz to dean@olaplex.com dated 3-9-2015; subject: Re: HAIR FORUMS	No Objection
362	8/9/2016	OLA_0000098285	OLA_0000098226	Email from T. Walden to Darcy Christal dated 8-9-2016; subject: Re: Advocate Guide	No Objection
363	3/7/2016	OLA_0000097873	OLA_0000097874	Email from D. Christal to T. Walden dated 3-7-2016; subject: Re: Two Social Media Posts	No Objection
364		OLA_0000075795	OLA_0000075795	Olaplex's Sales and Gross Profit (Excel)	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
364A				Olaplex Income Statement from April 2015 to December 2015	COMP; H; FO
364B				Olaplex Income Statement from April 2015 to December 2015	COMP; H; FO
365	10/24/2016	OLA_0000097503	OLA_0000097503	Emails ending with email from T. Walden to D. Christal; subject: olaplex Sales for 2016 - Units and Dollars.xlsx	No Objection
366		OLA_0000075799	OLA_0000075799	Olaplex Sales revenues	No Objection
367	8/16/2015	OLA_0000064224	OLA_0000064224	Email from jeff@olaplex.com to Sarah Lim dated 8-16-2015; subject: Fwd: Earthly Body/Colorphlex	No Objection
368	5/4/2016	OLA_0000019657	OLA_0000019659	Email from J. Iturralde to M. Heines, J. Schwartz, S. Gaspard, M. Spinks, J. Franklin, dated May 4, 2016	No Objection
369	8/7/2015	OLA_0000015991	OLA_0000016003	Email from D. Christal to A. Povalej dated 8-7-2015; subject: Re: Olaplex/Sexy hair Patent Infringement	No Objection
400	5/27/2017			Expert Report and Declaration of Karl Kronenberger on behalf of Plaintiff BehindTheChair.com	No Objection
403		SC0001419	SC0001429	SalonCentric Sales Data	No Objection
411	8/16/2016	LO_USA0073581	LO_USA0073582	Email from P. Schiraldi to B. Fontaine "RE: Bonder Survey Results - update"	No Objection
423		SC0000981	SC0001010	Charts entitled "Olaplex Performance" and "PPD Bonder Performance"	No Objection
431	7/1/2015	LO_USA0026569	LO_USA0026670	Email: FW: presentations for the OLIVIA Meeting - ALERT with attachment entitled Project Olivia Investment Committee July 1, 2015	No Objection
436	5/9/2016	LO_USA0040038	LO_USA0040075	Email: FW: Bond protectors	No Objection
471A	9/15/2014	OLA_0000080520	OLA_0000080521	Email from K. Funk to B. Fontaine Re: "Agenda - Olaplex Call 2014 09 15"	No Objection
472A	12/17/2018			Page "Who We Are" from www.saloncentric.com	No Objection
474	10/25/2016	OLA_0000089877	OLA_0000089889	Email from J. Schwartz to S. Orzel Re: "SC Contract"	No Objection
475	4/6/2015	LO_USA0035575	LO_USA0035576	Email from P. Sharnsky to R. Dolden "RE: Project Olivia"	No Objection
476	4/15/2015	LO_USA0007916	LO_USA0007917	Email from R. Dolden to K. O'Rourke "Fwd: Olivia: next steps"	No Objection

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503	8/22/2014	LO_USA0064698	LO_USA0064699	Email from K. Hamilton Re: "Olaplex Update Meeting Recap"	No Objection
504	9/16/2014	LO_USA0065164	LO_USA0065167	Email from K. Hamilton to C. Goget "RE: Olaplex Update Meeting Recap 12 Sept 2014"	No Objection
506	4/10/2015	LO_USA0039285	LO_USA0039289	Email from T. Re to K. Hamilton, H. Lam, C. Goget, F. Boulineau "RE: FOX - RM and safety Action Plan"	No Objection
507	12/14/2016	LO_USA0039907	LO_USA0039907	Material listings	No Objection
508	10/12/2016	LO_USA0039957	LO_USA0039982	Bonding Protection Routine for Stronger Reinforced Cared for Hair	
509	1/13/2016	LO_USA0064029	LO_USA0064030	Chart of Bonding Test with Bleach	No Objection
511	8/18/2014	LO_USA0064683	LO_USA0064685	Email from K. Hamilton to C. Goget "FW: Olaplex data for TCEP"	No Objection
513	7/20/2015	LO_USA0067470	LO_USA0067497	Stylist Workshop- Bonding Additive w/Treatment Formula #'s: Additive: 37462 RDK, Treatment: 1129634IN3	No Objection
514	8/27/2014	LO_USA0008203	LO_USA0008203	Email from K. Hamilton Re: "Olaplex Update Meeting Recap"	No Objection
515	4/22/2010	LO_USA0074958	LO_USA0074980	Hair Fiber Transformation Evaluation of Bis-Maleimides	No Objection
516	12/20/2018			Defendants' Objections and Responses to Plaintiffs' Fifth Set of Interrogatories (Nos. 13-20)	H; 105
517	8/23/2018	LO_USA0021275	LO_USA0021458	Laboratory Notebook L11455 (Hamilton 2)	No Objection
518	2/12/2019			Expert Report of Benny D. Freeman, PhD on Non-Infringement of U.S. Patent Nos. 9,498,419 AND 9,668,954	FO, H, REL
519	2/12/2019			Exhibit 182 to Expert Report of Benny D. Freeman, PhD on Non-Infringement - List of Additional Documents and Materials Considered	FO, H
520	1/29/2019			Expert Report of Benny D. Freeman, PhD on Invalidity of U.S. Patent Nos. 9,498,419 AND 9,668,954	FO, H, REL
521	1/29/2019			Exhibit 86 to Expert Report of Benny D. Freeman, PhD on Invalidity - List of Documents and Materials Considered	FO, H

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522	11/22/2016			Exhibit 1 to Expert Report of Benny D. Freeman, PhD on Invalidity - U.S. Patent 9,498,419	No Objection
523	6/6/2017			Exhibit 2 to Expert Report of Benny D. Freeman, PhD on Invalidity - U.S. Patent 9,668,954	No Objection
524	8/4/2015			Exhibit 117 to Expert Report of Benny D. Freeman, PhD on Invalidity - U.S. Patent 9,095,518	H
525				Exhibit 84 to Expert Report of Benny D. Freeman, PhD on Invalidity - Freeman CV	FO, H
526	5/16/2006			Exhibit 51 to Expert Report of Benny D. Freeman, PhD on Invalidity - U.S. Patent 7,044,986	H
527	12/19/2002			Exhibit 48 to Expert Report of Benny D. Freeman, PhD on Invalidity - U.S. Patent Application 2002/0189034	H
530	1/29/2019			Expert Report of Peter Smith Regarding Digital Computer Forensics	H
531		OLA_0000106926	OLA_0000106931	HAIR FORUMS .xls	H; FO
532				Exhibits A to I-12 to Smith Expert Report	H; COMP; FO
533		OLA_0000019116	OLA_0000019116	Spreadsheet of Social Media Manager contact information	H; COMP; FO
534		OLA_0000019117	OLA_0000019117	Attachment to E. Holz email identifying IG account names and passwords (Excel)	H; COMP; FO
535	3/21/2015	OLA_0000106943	OLA_0000106958	Email from E. Holz to D. Christal Re: "ABCH Article Screenshots"	H; COMP; FO
536	5/23/2015	OLA_0000016695	OLA_0000016697	Email from A. McDonald to Martine@olaplex.com "Re: KNOCK OFF POST"	No Objection
603	11/22/2016			United States Patent Number 9,498,419	No Objection
605		PABST002507	PABST002553	Document entitled "Demande de Brevet D'Invention" (in French), Pub. No. 3007642	No Objection
606		PABST000408	PABST000409	Document entitled "权利要求书" (Patent Claim) (in Mandarin), HK3570	No Objection
607	8/28/2014			Assignment from E. Pressly and C. Hawker to Liqwd, Inc.	No Objection
608	2/5/2015			United States Patent Application Publication No. 2015/0034117	No Objection

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610	5/6/2014			Instagram post by Tracey Cunningham	No Objection
611	6/1/2014			Email from D. Christal to slim@olaplex.com Re: "Olaplex new directions"	H; FO; COMP; REL; DIS
612	3/4/2014	OLA_0000100397	OLA_0000100449	Text messages between Tracey Cunningham and Dean Christal	H; FO; Q
613	2/15/2014	OLA_0000099886	OLA_0000099886	Email from D. Christal to T. Cunningham Re: "Olaplex packaging"	H; FO; COMP
614	3/14/2014	OLA_0000109315	OLA_0000109315	Email from D. Christal to T. Cunningham Re: "Olaplex agreementy"	No Objection
615	5/1/2014	LO_USA0010391	LO_USA0010392	LAUNCHPAD article "The Power of One," by Amy Dodds	No Objection
616	4/9/2014	OLA_0000015593	OLA_0000015593	Email from D. Christal to C. Cunningham Re: "Read ASAP for Launchpad"	No Objection
617	3/23/2014	OLA_0000107856	OLA_0000107856	Email from D. Christal to T. Cunningham Re: "Letter of Intent"	No Objection
618	2/17/2016	OLA_0000110731	OLA_0000110731	Email from D. Christal to T. Cunningham Re: "Olaplex/Liqwd deal"	No Objection
619	1/28/2016	OLA_0000024021	OLA_0000024022	Email from D. Christal to T. Cunningham "Re: Google Alert - Tracey Cunningham"	H; FO; REL
621	12/5/2018			Defendants' Notice of Deposition of Tyler Krebs	No Objection
622	12/17/2018			Tyler Krebs LinkedIn profile	No Objection
623	9/19/2018	OLA_0000098496	OLA_0000098497	Email from jeff@olaplex.com to M. Spinks, S. Murphy "Re: [EXT] Fwd: #4 and #5"	No Objection
731	12/15/2018			Jeff Schwartz LinkedIn profile	H; CP
732	5/5/2016	OLA_0000084704	OLA_0000084705	Email from T. Walden to J. Schwartz "Re: Employee Handbook and Related Documents"	H; CP
733	12/2/2015	SC0000248	SC0000250	Email from J. Schwartz to S. Orzel "Re: Store Sale"	H; FO
734	5/21/2015	OLA_0000020368	OLA_0000020369	Email from Darcy Christal to J. Schwartz "Fwd: KNOCK OFF POST"	H; FO
735	2/16/2015	OLA_0000022020	OLA_0000022020	Email from J. Schwartz to P. Palladino, S. Massie Ree: "Olaplex Knock-off"	No Objection
736	6/24/2015	OLA_0000020220	OLA_0000020220	Email from K. Helmers to J. Schwartz Re: "Knock off comparisons - Invitation to collaborate"	H; FO

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737	4/20/2015	OLA_0000092270	OLA_0000092272	Email from J. Schwartz to M. Spinks "RE: resending from original date sent 04/09/2015"	H; FO
738	12/17/2015	OLA_0000073472	OLA_0000073472	Email from J. Schwartz to J. Franklin, J. Iturralde, M. Brwona, R. Boyd, F. Fulco, M. Heines, and D. Christal Re: "FHI NeoBond"	H; FO
739	11/21/2018			Defendants' Notice of Deposition of Plaintiffs Pursuant to Rule 30(b)(6)	No Objection
740				Thermo Scientific Instructions BM(PEG)2 and BM(PEG)3	No Objection
741	6/1/2014	LO_USA0008192	LO_USA0008196	Material Safety Data Sheet for Olaplex Bond Multiplier No. 1	No Objection
742	7/4/1905			Langmuir paper: "Improved Methodology for the Preparation of Water-Soluble Maleimide-Functionalized Small Gold Nanopartides"	No Objection
743	8/29/2014	LO_USA0010810	LO_USA0010868	International Application No. PCT/US2014/049388	No Objection
744	7/15/2014	OLA_0000080790	OLA_0000080790	Email from E. Pressly to E. Kimble, J. Goff Re: "Alternate Olaplex recipe"	No Objection
745	12/1/2014	LO_USA0010745	LO_USA0010749	Material Safety Data Sheet Olaplex Bond Multiplier No. 1	No Objection
746	5/15/2015	LO_USA0068275	LO_USA0068284	Pressly Declaration (Keratin Treatment Formulations and Methods)	No Objection
747	11/22/2016			United States Patent 9,498,419	No Objection
748	8/27/2015	OLA_0000015922	OLA_0000015922	Email from D. Christal to E. Pressly "Re: Henkel bonding vs. Olaplex"	No Objection
749	4/1/2015			DS Laboratories Material Data Sheet for RO. TOPIA FRACTAL ENERGIZER	No Objection
752	11/6/2009			"The Power of Thiol-ene Chemistry" published in Journal of Polymer Science	H; DIS; REL
753	2/9/2010			"Thiol-click chemistry: a multifaceted toolbox for small molecule and polymer synthesis" published in Chemical Society Reviews	H; DIS; REL; FO
754	8/1/2014	LO_USA0010810	LO_USA0010868	International application no. PCT/US2014/049388	H; FO; REL
755	2/5/2015			International Application No. PCT/US2014/049388; Internatonal Pub. No. WO 2015/017768 A1	H; FO; REL

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756	6/1/2014			Material Safety Data Sheet Olaplex Bond Multiplier No. 1	H; FO
757	12/12/2014	UCSB000815	UCSB000821	Email from C. Hawker to E. Khoschel "Re: Emailing Behind The Chair - Articles: Hair Colour Technology"	H; FO
758	11/6/2014	UCSB001241	UCSB001242	Email from C. Hawker to P. Allen Re: Olaplex	H; FO
759	12/18/2014			Email from C. Hawker to E. Pressly "Fw: Barry Arkles"	H; FO
760				Intentionally Left Blank	
761		UCSB000273	UCSB000341	UCSB Presentation "Success stories in commercial functional materials - from hair care to pharmaceuticals"	H; FO
762		UCSB000251	UCSB000272	UCSB Presentation "Central Role of Chemistry"	H; FO
800	5/14/2014	OLA_0000100184	OLA_0000100186	Email from D. Christal to M. Rector-Gable Re: My Letter--	No Objection
801	12/2/2017	OLA_0000067603	OLA_0000067620	Confidential Binding Settlement Term Sheet between Behind the Chair and Christal, Olaplex and Liqwd	No Objection
802	7/10/2014			Olaplex Instagram Post re Joe Santy	No Objection
803	10/11/2014	OLA_0000095575	OLA_0000095576	Email from D. Christal to P. Sharnsky Re: "Exchange with Lanza/Olaplex"	No Objection
804	7/22/2015	OLA_0000097251	OLA_0000097251	Email from D. Christal to P. Sharnsky "Fwd: Big Sexy Patent Infringement"	No Objection
805	12/20/2017			Witness Statement of Dean Christal	No Objection
806	4/20/2015	OLA_0000092270	OLA_0000092272	Email from J. Schwartz to M. Spinks "RE: resending from original date sent 04/09/2015"	No Objection
807	10/7/2015	OLA_0000015867	OLA_0000015869	Email from D. hristal to Olaplex employees Re: "Letter to post starting tomorrow early"	No Objection
808				Tracey Cunningham Instagram posts	No Objection
809	8/13/2015	OLA_0000014434	OLA_0000014437	Email from S. Reiss to D. Christal "RE: OLAPLEX and Modern Salon"	No Objection
810	9/18/2015	OLA_0000024064	OLA_0000024067	Email from D. Christal to S. Reiss "Re: OLAPLEX story picked up by Google Alert - hair salon"	No Objection
811	4/9/2014	OLA_0000015593	OLA_0000015593	Email from D. Christal to T. Cunningham Re: "Read ASAP for Launchpad"	No Objection

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812	1/27/2017	OLA_0000067413	OLA_0000067416	Declaration of Dean Christal in Support of Defendants' Motion for Summary Adjudication in Behind the Chair Litigation	No Objection
813	6/11/2015			Email from R. Dolden to D. Christal Re: "Project Olivia"	No Objection
850	12/18/2018			Subpoena to to E. Holz to Testify at a Deposition in a Civil Action	No Objection
851	12/20/2018			Evanice Holz LinkedIn profile	No Objection
852	2/21/2015	OLA_0000106892	OLA_0000106896	Email from E. Holz to Dean and Darcy Christal Re: "Olaplex mentions on blogs & forums"	H
853	3/5/2015	OLA_0000106909	OLA_0000106916	Email from E. Holz to D. Christal Re: HAIR FORUMS - CORRECTED with attachment	H; COMP
854	3/13/2015	OLA_0000106925	OLA_0000106931	Email from E. Holz to Dean and Darcy Christal Re "30+ NEW GROUPS & FORUMS" with attachment	H
855	3/21/2015	OLA_0000106943	OLA_0000106958	Email from E. Holz to Dean and Darcy Christal Re: "ABCH Article Screenshots" with attachment	H; Q
856	6/16/2015	OLA_0000014644	OLA_0000014647	Email from E. Holz to Darcy Christal Re: Social Media Reports	H
857	4/8/2015	OLA_0000016703	OLA_0000016704	Email from E. Holz to M.Berkshire Re: [PICS] Khloe Kardashian Blonde - star Shows Off Bright New Hair Style - Hollywood Life	H
858	4/27/2015	OLA_0000018705	OLA_0000018705	Email from E. Holz to T. Katz Re: "Files Shared"	H
859	5/30/2015	OLA_0000018145	OLA_0000018146	Email from martine@olaplex.com to E. Holz Re: "HAIR FORUM/GROUP ASSIGNMENT SHEET"	H
860	6/19/2015	OLA_0000018564	OLA_0000018566	Email from E. Holz to Slim@olaplex.com Re: "Ets Excel.xlsx - Invitation to edit"	H
861	10/6/2015	OLA_0000134324	OLA_0000134325	Email from E. Holz to J. Schwartz Re: "ET Response to 'The Photo'"	H
862	3/21/2015			SalonGeek posts	H; FO; DIS; AU
863	3/22/2015			Reddit FancyFollicles website printout	H; FO; DIS; AU
864	3/21/2015			hairbrained Archive: "Olaplex for the win!! :)"	H; FO; DIS; AU
865	4/1/2016	OLA_0000083122	OLA_0000083164	Olaplex LLC Employee Handbook	No Objection
866				Exhibit A to Freeman Invalidity Report	FO, H
867				Exhibit B to Freeman Invalidity Report	H

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868				Exhibit C to Freeman Invalidity Report	COMP, FO, H
869				Exhibit D to Freeman Invalidity Report	COMP, FO, H
870				Exhibit E to Freeman Invalidity Report	COMP, FO, H
871				Exhibit F to Freeman Invalidity Report	COMP, FO, H
872				Exhibit G to Freeman Invalidity Report	COMP, FO, H
873				Exhibit H to Freeman Invalidity Report	COMP, FO, H
874				Exhibit I to Freeman Invalidity Report	COMP, FO, H
875	2/12/2019			Expert Report of Leigh Fatzinger	H
876	2/8/2019			Defendants' Answer and Defenses to Plaintiff's Third Amended Complaint and Amended Counterclaims	H
877	1/29/2019			Expert Report of Peter Smith Regarding Digital Computer Forensics	H
878	4/27/2015	OLA_0000018705	OLA_0000018705	Email from E. Holz to T. Katz Re: "Files Shared"	H; FO
879				Zevastian MIA NYC LA (@zevastianbeautyplace) Instagram profile	H; FO; DIS; AU
880				Tracey Cunningham (@traceycunningham1) Instagram profile	H; FO; DIS; AU
881	1/29/2019			Rhonda Harper Expert Report	H
882	3/13/2015	OLA_0000100862	OLA_0000100868	Email from E. Holz to dean@olaplex.com and Darcy Christal Re: "30+ NEW GROUPS & FORUMS" with attachment	H; FO; Q
883	11/27/2018			Subpoena to V. Laris to Testify at a Deposition in a Civil Action	No Objection
884	12/4/2017	OLA_0000067601	OLA_0000067602	Witness Statement of Vicki Laris	No Objection
885	3/6/2014	OLA_0000114858	OLA_0000114858	Email from V. Laris to info@olaplex.com Re: Interested in product	No Objection
886	3/7/2014	OLA_0000116817	OLA_0000116818	Email from V. Laris to info@olaplex.com Re: Olaplex	No Objection
887	3/21/2014	OLA_0000114707	OLA_0000114709	Email from V. Laris to info@olaplex.com Re: Olaplex	No Objection
888	4/5/2014	OLA_0000114304	OLA_0000114306	Email from V. Laris to info@olaplex.com Re: Olaplex	No Objection
889	5/9/2014	OLA_0000116979	OLA_0000116981	email from V. Laris to info@olaplex.com Re: Olaplex	No Objection
890	6/2/2014	OLA_0000116912	OLA_0000116914	Email from V. Laris to info@olaplex.com Re: Olaplex	No Objection
891	6/13/2014	OLA_0000111077	OLA_0000111080	Email from V. Laris to info@olaplex.com Re: Olaplex	No Objection
892	10/30/2014	OLA_0000015191	OLA_0000015191	Email from V. Laris to D. Christal Re: "Salon west Tampa"	No Objection

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893	11/11/2013			vlaris11 Instagram post	H; FO; AU; DIS
894	11/11/2013			vlaris11 Instagram post	H; FO; AU; DIS; COMP
900	1/29/2019			Opening Expert Report of Douglas D. Schoon, M.S.	No Objection
901	2/2/2012	LO_USA0008859	LO_USA0008874	U.S. Patent Application 2012/0024309	H; FO
902	8/4/2015	LO_USA0009520	LO_USA0009542	U.S. Patent 9,095,518	COMP
903	2/26/2019			Innovation Awards - Schoon Scientific	No Objection
904	3/11/2016			Olaplex Facebook post	H; FO; CP
905	9/16/2014	LO_USA0065164	LO_USA0065167	Email from K. Hamilton to C. Goget RE: "Olaplex Update Meeting Recap 12 Sept 2014" and attachment	H; FO
906	8/23/2018	LO_USA0021096	LO_USA0021274	Laboratory Notebook L11363 (Hamilton 1)	H; FO
907	5/26/2015	LO_USA0039163	LO_USA0039165	Email from A. Lahaye Re: "Olaplex experiment - Need your input ASAP"	H; FO
908	8/25/2018	LO_USA0022327	LO_USA0022419	Laboratory Notebook L11145 (Boulineau)	H; FO
909	6/27/2018	OLA_0000065453	OLA_0000065504	Final Written Decision PGR2017-00012	MIL; H; REL; 403; CP; Incomplete Description of Redacted Document
910	11/21/2018			Subpoena to Testify at a Deposition in a Civil Action	No Objection
911	4/15/2014			vtgesther Instagram post	H; FO; DIS
911A				James Pooley Bio	H; MIL
912	12/20/2017	OLA_0000067563	OLA_0000067574	Witness Statement of Dean V. Christal	No Objection
912A	3/2/2019			James Pooley, PLC - Services	H; MIL
913	1/28/2019			Declaration of Esther Vasquez in Support of Non-Party Esther Vasquez's Portion of Joint Stipulation Re: Defendants' Motion to Compel Non-Party Esther Vasquez to Comply with Subpoena Duces Tecum and to Testify at Deposition	No Objection
914	6/21/2014			vtgesther Instagram post	No Objection
914A				Protecting Trade Secrets from Cyber and Other Threats from create.org	H
915	6/23/2014			vtgesther Instagram post	No Objection
916	4/13/2018			Witness Statement of Esther Vasquez	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
916A	12/20/2017	OLA_0000067563	OLA_0000067574	Witness Statement of Dean V. Christal	No Objection
917	6/27/2014	OLA_0000108805	OLA_0000108805	Email to info@olaplex.com Re: Silicone?	H; FO
918	10/1/2014	OLA_0000108816	OLA_0000108819	Email to orders@olaplex.com Re: Olaplex Questions answered	H; FO
920	2/12/2019			Expert Report of Thomas Schultz, PH.D.	H; MIL
921		OLA_0000094755	OLA_0000094804	Utility Patent for Keratin Treatment Formulations and Methods	No Objection
922	1/29/2019			Opening Expert Report of Douglas D. Schoon, M.S.	No Objection
923	2/28/2018			Report and Recommendation re Motions to Dismiss	H; REL
924	6/18/2015	LO_USA0002413	LO_USA0002430	Powerpoint: "Project Olivia Investment Committee - June 18, 2015"	No Objection
925	8/23/2018	LO_USA0021096	LO_USA0021274	Laboratory Notebook L11363 (Hamilton 1)	H; FO
926	8/27/2014	LO_USA0008203	LO_USA0008203	Email from K. Hamilton Re: Olaplex Update Meeting Recap	No Objection
927	8/5/2014			Maritime Beauty website: Olaplex No. 3 Hair Perfector 100ml product page	No Objection
928	4/1/2017			Material Safety Data Sheet for Olaplex Bond Perfector No. 3	No Objection
929	8/27/2014	LO_USA0038996	LO_USA0039007	Email from B. Fontaine to C. Goget re MSDS	No Objection
930	11/21/2018			Subpoena to A. Gold Testify at a Deposition in a Civil Action	No Objection
930A	6/27/2018	OLA_0000065453	OLA_0000065482	Excerpt from PTAB Final Written Decision PGR2017-00012	H, MIL, REL, 403
931	2/27/2019			Memorandum Order re Gold Deposition	No Objection
932	1/30/2019			Alan Gold Witness Statement	No Objection
933	8/23/2013			alangoldgroup Instagram post	No Objection
934	6/20/2014			Emails and Witness Statement of Alan Gold	H; FO; COMP
950	1/29/2019			Export Report of Professor Dominique Hanssens	No Objection
951	6/20/2016			Declaration of Dr. Dominique M. Hanssens in Support of Plaintiff's Reply to Motion for Preliminary Injunction	No Objection
952	2/12/2019			Expert Rebuttal Report of Professor Dominique Hanssens	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
953	6/1/1985			Article: "Effects of Product Trial on Consumer Expectations, Demand, and Prices" by Patricia Goering	H; FO
954	8/12/2011			Declaration of Dominique M. Hanssens in Support of Defendant's Opposition to Plaintiff's Motion for Class Certification	No Objection
955				Empirical Generalizations about Marketing Impact, edited by Dominique M. Hanssens	No Objection
956	5/15/2018			Excerpt from Videotaped Deposition of Tiffany Walden	H; CP; LR
957	12/18/2018			Excerpt from Videotaped Deposition of Jeff Schwartz	H; CP; LR
958	7/20/2016			Exhibit B-1 to Expert Report of Pete Smith - Lorealpro Instagram Page	H; FO; AU; CP
959	8/20/2014	BTC_PL 007098	BTC_PL 007098	Email correspondence between M. Rector-Gable and D. Christal Re: Olaplex Agreement	H; FO; REL
960	4/13/2017			Declaration of Dean Christal in Support of Defendants' Motion for Summary Adjudication	No Objection
961	5/7/2012			Declaration of Dr. Hanssens in Support of Defendant's Opposition to Plaintiff's Motion for Class Certification in Altamura v L'Oreal USA	H; FO; REL
962	2/12/2019			Second Expert Report of George G. Strong, Jr.	No Objection
963	9/20/2016	LO_USA0003439	LO_USA0003544	Kline Report: Salon Hair Care: World Market Analysis and Opportunities - Published September 2016	H; FO
964	5/1/2018			Kline Report: Salon Hair Care: U.S. Market Analysis and Opportunities - Published May 2018	H; FO
965	1/29/2019			Expert Report of George G. Strong, Jr.	No Objection
966	3/5/2019			3 by 3 matrix drawn by George at deposition	H; FO
1000	1/29/2019			Opening Expert Report of Edward T. Borish, Ph.D.	H, REL
1000A	2/12/2019			Rebuttal Expert Report of W. Todd Schoettelkotte Relating to Olaplex's Damages	H
1001				Intentionally Left Blank	

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
1001A	12/21/2018			Defendants' Sixth Supplemental Objections and Responses to Interrogatory No. 2 and First Supplemental Objections and Responses to Plaintiffs' Interrogatory Nos. 9 and 24	H
1002				Eslabondexx Bleach product page	H; FO
1002A				Table LO_USA0075976.xlsx (34 pages)	No Objection
1003				Table LO_USA0075977.xlsx - pH-Bonder 2016 (34 pages)	H; FO
1004				Eslabondexx Bleach - 500gr - product page	H; FO
1004A	5/20/2014	OLA_0000000027	OLA_0000000031	LiQWD Inc. License Agreement to Olaplex, LLC	No Objection
1005A				Intentionally Left Blank	
1005	11/1/2016	OLA_0000000032	OLA_0000000048	Amendment No. 1 to Liqwd Inc. License Agreement to Olaplex, LLC	No Objection
1006				Uberliss Bond Trial Kit website page	NVP, DIS, AU, FO, H
1006A	7/1/2015	LO_USA0026570	LO_USA0026594	Powerpoint: "Project Olivia Investment Committee, July 1, 2015"	No Objection
1007	1/31/2019			U.S. Patent Application 2019/0029945	H; FO; REL
1008	2/12/2019			Rebuttal Expert Report of Edward T. Borish, Ph.D.	H
1009		LO_USA0010257	LO_USA0010275	Exhibit 9 to Invalidity Report of Freeman	H
1010		LO_USA0075041	LO_USA0075259	Exhibit 15 to Invalidity Report of Freeman	H
1010A	1/29/2019			Fulcrum Financial Inquiry LLP's Report in connection with Liqwd, Inc. and Olaplex LLC vs. L'Oreal USA, Inc., et al.	H
1011	4/26/2018			Testimony of David Mark Haddleton, Day 3, In the High Court of Justice Business and Property Courts of England and Wales Intellectual Property Lists Patents Court	No Objection
1011A	12/21/2018			Defendants' Sixth Supplemental Objections and Responses to Interrogatory No. 2 and First Supplemental Objections and Responses to Plaintiffs' Interrogatory Nos. 9 and 24	H

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1012		LO_USA0075919	LO_USA0075975	Exhibit 17 to Invalidity Report of Freeman - International Patent Application Pub. No. WO 2008/072672 ("Watanabe 672")	H
1012A	1/11/2019			Defendants' Answer and Defenses to Plaintiffs' Second Amended Complaint and Counterclaims	H
1013		LO_USA0070057	LO_USA0070079	Exhibit 13 to Invalidity Report of Freeman - U.S. Patent Application Publication No. US 2009/0126756 ("Syed")	H
1013A	2/12/2019			Second Expert Report of George G. Strong, Jr.	No Objection
1014		LO_USA0075743	LO_USA0075745	Exhibit 17 to Invalidity Report of Freeman	AU, FO, H, REL
1015				Intentionally Left Blank	
1016				Intentionally Left Blank	
1017				Intentionally Left Blank	
1018	5/29/1969	LO_USA0075788	LO_USA0075801	Exhibit 26 to Invalidity Report of Freeman - U.S. Patent No. 3,634,022 ("Robbins")	H
1019	9/16/1969			"Endgroup Analysis of Isolated Poly (methyl methacrylate) from Graft Copolymers of Wool"	H; FO; REL
1020	7/1/1996			"Reduction of human hair by cysteamine and ammonium thioglycolate: A correlation of amino acid analysis and single-fiber tensile kinetic data"	H; FO
1021A	10/14/1969	LO_USA0070499	LO_USA0070503	U.S. Patent No. 3,472,604 (Exhibit 6 to Expert Report of Benny Freeman)	H
1022		LO_USA0075746	LO_USA0075760	Polymerization into Human Hair, Clarence Robbins et al. (Exhibit 25 to Expert Report of Benny Freeman)	H; FO
1023A		LO_USA0075788	LO_USA0075801	"The Thiol-Michael Addition Click Reaction: A Powerful and Widely Used Tool in Materials Chemistry" - Ex. 36 to Invalidity Report of Freeman	H; FO
1025	2/12/2019			Expert report of Peter N. Golder, Ph.D.	H
1026	7/1/2015	LO_USA0041358	LO_USA0041382	Powerpoint: "Project Olivia Investment Committee, 7/1/15"	No Objection
1027				Exhibit 23 to George Strong Expert Report: Comparison of Olaplex and L'Oréal Margins, Q2 2015 - Q3 2018	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
1028	11/1/2016	OLA_0000000032	OLA_0000000048	Amendment No. 1 to Liqwd Inc. License Agreement to Olaplex, LLC	No Objection
1029				Article in the Strategic Management Journal, 1998, entitled "First-Mover (Dis)advantages: Retrospective and Link With the Resource-Based View," by Lieberman and Montgomery	No Objection
1030	7/6/2017			Memorandum Order re Motion for Preliminary Injunction	No Objection
1031	10/15/2018			Report and Recommendation re Motion for Preliminary Injunction	No Objection
1032	1/16/2018			United States Court of Appeals for the Federal Circuit, Notice of Entry of Judgment Accompanied by Opinion	No Objection
1033	5/16/2017			Excerpt of Deposition Transcript of Todd Schoettelkotte	No Objection
1034	5/25/2017			Rebuttal Declaration of Edward T. Borish, Ph.D. in Support of Olaplex's Motion for a Preliminary Injunction	H
1035	5/11/2017			Excerpt of Deposition Transcript of Leslie Marino	No Objection
1036	5/11/2017			Excerpt of Deposition Transcript of Leslie Marino	No Objection
1050	3/3/2019			Email chain between C. Tallman and T. Walden re deposition	No Objection
1051	12/3/2018			Subpoena to C. Tallman to Testify at a Deposition in a Civil Action	No Objection
1052	5/3/2014			Text messages between C. Tallman and D. Christal	No Objection
1053	4/11/2014			Courtney Tallman Hair (@courtneytallmanhair) Instagram post	No Objection
1054				Courtney Tallman Hair (@courtneytallmanhair) Instagram post	No Objection
1055	4/13/2014			Courtney Tallman Hair (@courtneytallmanhair) Instagram post	No Objection
1056	4/18/2014			Courtney Tallman Hair (@courtneytallmanhair) Instagram post	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
1057	5/2/2014			Courtney Tallman Hair (@courtneytallmanhair) Instagram post	No Objection
1058	5/7/2014			Courtney Tallman Hair (@courtneytallmanhair) Instagram post	No Objection
1059	6/21/2014			Email chain between C. Tallman and D. Christal	No Objection
1060	3/20/2018			Email chain between C. Tallman and R. Boakes	H; FO
1070	11/3/2011			Nondisclosure Agreement between LiQWD and Gelest NDA	No Objection
1071	8/16/2016			Gelest Process Document, BISAMINOPROPYL DIGLYCOL DIMALEATE- XG-2820, Version 1	H; FO; REL
1072	11/10/2016			Gelest Process Document, BISAMINOPROPYL DIGLYCOL DIMALEATE- XG-2820, Version 2	H; FO; REL
1073	12/14/2018			Gelest Process Document, BISAMINOPROPYL DIGLYCOL DIMALEATE- XG-2820, Version 3	H; FO; REL
1074	10/21/2014			Alternative Process document for XG-2820, 20wt% 2,2'-ethylenedioxy bis(ethylammonium)-bis (hemi-maleate)	H; FO; REL
1075	1/6/2014	GELEST 0005	GELEST 0134	Batch of Gelest Invoices, Shipped to Cosway or Liqwd	H; FO; REL; COMP
1076	7/25/2018	GELEST 0135	GELEST 0235	Batch of emails from dave@olaplex.com to Gelest enclosing Purchase Orders	H; FO; REL; COMP
1077		GELEST 0236	GELEST 0325	Batch of emails between Olaplex, Cosway and Gelest re: product shipments	H; FO; REL; COMP
1078		GELEST 0236	GELEST 0435	Batch of emails between Olaplex, Cosway and Gelest re: product shipments and POs	H; FO; REL; COMP
1079		GELEST 0436	GELEST 0535	Batch of emails between Olaplex, Cosway and Gelest re: product shipments and POs	No Objection
1080		GELEST 0536	GELEST 0610	Batch of emails between Olaplex, Cosway and Gelest re: product shipments and POs	H; FO; REL; COMP
1081	3/26/2015			Olaplex FAQ on www.olaplex.com	No Objection
1082	12/1/2014			Material Safety Data Sheet Olaplex Bond Multiplier No. 1	No Objection
1083	6/2014			Material Safety Data Sheet Olaplex Bond Perfector No. 2	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
1084	7/15/2014	OLA_0000080790	OLA_0000080790	Email from E. Pressly to Gelest re "Alternate Olaplex recipe"	H
1085	8/1/2014	LO_USA0010810	LO_USA0010868	Certified copy of U.S. Provisional patent application 61/903,239 in Internation App. No. PCT/US2014/0493883	H
1086				Emails, Instagram posts, and text messages between T. Walden and S. Conde	No Objection
1087	3/19/2018			Email from S. Conde to R. Boakes Re: L'Oreal - Smartbond - Olaplex	No Objection
1088	3/19/2018			Email from S. Conde to R. Boakes Re: L'Oreal - Smartbond - Olaplex	H; FO
1089	3/27/2014			semamarihair Instagram post	No Objection
1090	6/1/2014			semamarihair Instagram post	No Objection
1090A	6/20/2014			Cosway batch records for Olaplex Bond Multiplier Batch Code 4F1709	No Objection
1091	6/1/2014			semamarihair Instagram post	No Objection
1091A	8/25/2014			Cosway batch records for Olaplex Bond Multiplier Batch Code 4H2617	No Objection
1092	6/18/2014			semamarihair Instagram post	No Objection
1092A	9/2/2014			Cosway batch records for Olaplex Bond Multiplier Batch Code 4I0320	No Objection
1093	4/1/2014			semamarihair Instagram post	No Objection
1093A	4/5/2017			Cosway batch records for Olaplex Bond Multiplier Batch Code 7D0616	No Objection
1094	5/22/2014			semamarihair Instagram post	No Objection
1094A	2/3/2015			Cosway batch records for Olaplex BondPerfector and Hair Protector Multiplier Batch Code 5B0516	H; CP
1095A	12/5/18,			Screenshot of S. Conde Text Messages Dated "Wednesday, Dec. 5," "Tuesday, Jan. 29""	H; REL
1095	1/9/2017			Invoice #187786 to Olaplex from Cosway	H; FO
1096A	4/9/2018			Email from S. Conde to R. Boakes Re: L'Oreal - Smartbond - Olaplex	H; FO

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1096	4/22/2014			E-mail dated 4/22/2014 from Maggie Martinez to Susan McCarthy; Michelle Pienkos Mora attaching spreadsheets (without attachments)	H; FO; CP
1097	5/1/2014			Cosway spreadsheets re Open orders status	H; FO
1098	5/6/2014			Email from D. Christal to S. McCarthy: Re: Hair perfector	H; FO
1099	5/27/2014			Email from Darcy Christal to S. McCarthy Re: "Fwd: Labels"	H; FO
1100B				Intentionally Left Blank	
1100A	1/29/2019			Rhonda Harper Expert Report	H
1100	7/11/2014			Email from L. Sandoval to S. McCarthy Re: Olaplex MSDS sheets	H; FO
1101A				Tracey Cunningham (@traceycunningham1) Instagram profile	H; FO
1101	7/1/2014			Material Safety Data Sheet for Olaplex Bond Perfector No. 2/ Olaplex Hair Perfector No. 3t	No Objection
1102A	1/11/2019			Defendants' Answer and Defenses to Plaintiffs' Second Amended Complaint and Counterclaims	H
1102	7/21/2014			Email from M. Mora to M. Martinez, R. Camacho, W. Mina, E. Garcia Re: 545-6500	No Objection
1103A	9/29/2013			38 surprising facts about trust in social media	H
1103	7/24/2014			Email from M. Martinez to S. McCarthy re: GELEST	No Objection
1104A				Influence of social media in travel	H
1104	11/7/2014			Email from M. Martinez to Olaplex: FW: 545-6500	No Objection
1105	11/7/2014			Gelest Packing List for shipment to Cosway	No Objection
1106	11/11/2014			Email from M. Martinez to D. Kapriellen Re: 545-6500	No Objection
1107	11/18/2014			Email from P. Russo to S. McCarthy Re: Olaplex	No Objection
1108	2/3/2015			Email from D. Simon to Cosway employees Re: Olaplex 545-7035	No Objection
1109	9/4/2014			Invoice #168649 to Olaplex from Cosway	No Objection
1110	9/5/2014			Invoice #168669 to Olaplex from Cosway	No Objection
1111	8/6/2014			Invoice #168034 to Olaplex from Cosway	No Objection
1112	9/4/2014			Invoice #168648 to Olaplex from Cosway	No Objection
1113	7/17/2015			Invoice #175768 to Olaplex from Cosway	No Objection

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1114	8/23/2016	OLA_0000094471	OLA_0000094471	Email string between S. McCarthy and D. Christal and T. Walden Re: Cosway agreement	H; FO
1116	6/27/2013	GELEST 0611	GELEST 0672	Polymer Development Batch Sheets, Reaction Batch Sheets, Record Sheets, Final Product Analysis Forms, and Invoices	H; FO; COMP
3000	6/10/2015	LO_USA0000010	LO_USA0000013	Presentation: "A New Market Category: The Bond Builders"	H; FO; CP; 403 (cumulative, see, e.g., TX 924)
3001	5/4/2015	LO_USA0000104	LO_USA0000108	Document RE: "Olaplex Competitors"	H; FO; CP; 403
3002	1/28/2016	LO_USA0000190	LO_USA0000200	Presentation: "Competitive Landscape"	H; FO; CP; 403
3003	1/8/2016	LO_USA0000261	LO_USA0000262	Document RE: "Launch of Treatment/Additive 'Virgin'"	H; FO; CP; 403
3004	6/17/2016	LO_USA0000281	LO_USA0000315	Presentation: "Bonding: A Growing Category"	H; FO; CP; 403
3005	7/22/2016	LO_USA0000356	LO_USA0000359	Document RE: "Competitive Cheat Sheets"	H; FO; CP; 403
3006	8/18/2015	LO_USA0000371	LO_USA0000371	Document RE: "Competitive Update: Growing Olaplex Competitors"	H; FO; CP; 403
3007	1/5/2016	LO_USA0000389	LO_USA0000389	Document RE: "Haircare additives that prevent bonds in hair from breaking while lightening and coloring in salon"	H; FO; CP; 403
3008	1/26/2017	LO_USA0000405	LO_USA0000415	Document RE: "Claims Concurrence Bonders, Pro Market"	H; FO; CP; 403
3009	10/28/2016	LO_USA0000418	LO_USA0000418	Document RE: "Bond Competitive Overview"	H; FO; CP; 403
3010	4/12/2016	LO_USA0000465	LO_USA0000466	Document RE: "Competitive Comparison"	H; FO; CP; 403
3011	11/9/2015	LO_USA0000474	LO_USA0000493	Document RE: "Bondifyer: Environment Concurrentiel Claims"	H; FO; CP; 403
3012	8/28/2015	LO_USA0000563	LO_USA0000563	Document RE: "Key Points"	No Objection
3013	8/12/2015	LO_USA0000584	LO_USA0000593	Document RE: "Keratin Complex Vital Shot"	H; FO; CP; 403; REL
3014	8/18/2015	LO_USA0000594	LO_USA0000594	Email from D. Burakov to A. Potin and others dated Aug. 18, 2015, subject: "Olaplex like products"	H; FO; CP
3015	8/18/2015	LO_USA0000595	LO_USA0000609	PowerPoint RE: "Olaplex like Products 2015"	H; FO; CP
3016	6/17/2015	LO_USA0000635	LO_USA0000638	Document RE: "Additive for Chemical Services"	H; FO; CP
3017	6/17/2015	LO_USA0000684	LO_USA0000685	Document RE: "Olivia - Like Products"	H; FO; CP
3018	9/23/2015	LO_USA0000749	LO_USA0000759	Document RE: "Competitive Landscape"	H; FO; CP

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3019	7/18/2016	LO_USA0000876	LO_USA0000877	Letter from Olaplex LLC to customers dated July 19, 2016	No Objection
3020	7/15/2016	LO_USA0001013	LO_USA0001123	Myra A. Hoshowski, Conditioning of Hair, Hair and Hair Care 65-104 (Dale H. Johnson ed., 1997)	Incorrect Description; H; FO; CP
3021	10/30/2015	LO_USA0001072	LO_USA0001105	StreetLink: New Product Releases	H; FO; CP; 403 (cumulative, see, e.g., TX 3040)
3022	4/17/2016	LO_USA0001318	LO_USA0001386	TrendVision Reports: Overview of Hair-Protecting Additives (April 2016)	H; FO; 403 (cumulative)
3023	4/15/2016	LO_USA0001583	LO_USA0001583	Document RE: "Bond Landscape"	H; FO; CP
3024	12/19/2016	LO_USA0001601	LO_USA0001631	StreetLink: The Bonding Additives Market Expands, Again	H; FO; CP; 403 (cumulative, see, e.g., TX 3040)
3025	11/21/2014	LO_USA0001898	LO_USA0001921	StreetLink "Olaplex 1st Imitator: An Open Letter From Olaplex's D. Christal"	H; FO; CP; Incorrect Description
3026	6/5/2015	LO_USA0002356	LO_USA0002399	TrendVision Reports: Overview of Hair-Protecting Additives (May 2015)	H; FO; 403 (cumulative)
3027	6/19/2015	LO_USA0002402	LO_USA0002404	Email chain ending with email from R. Dolden to D. Christal dated June 19, 2015, subject: "RE: Income Statement/Licensing/Liqwd Inc IP"	H; FO; 403; Privacy Privilege
3028	8/31/2015	LO_USA0002405	LO_USA0002408	Email chain ending with email from R. Dolden to D. Christal dated Aug. 31, 2015, RE: Meeting Dates	No Objection
3029	6/13/2015	LO_USA0002409	LO_USA0002409	Email chain ending with email from R. Dolden to D. Christal dated June 13, 2015, RE: Olivia	H; FO
3030	9/1/2015	LO_USA0002411	LO_USA0002411	Email from R. Dolden to D. Christal dated Sept. 1, 2015, subject: "Today"	No Objection
3031	5/19/2015	LO_USA0002412	LO_USA0002412	Email from D. Christal to R. Dolden dated May 19, 2015, Subject: Copy of Costed BOM's with margins	H; FO; CP
3032	5/4/2015	LO_USA0002431	LO_USA0004646	PowerPoint RE: "Olaplex Brand Snapshot, April 2015"	No Objection

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3033	6/15/2015	LO_USA0002462	LO_USA0002463	Email chain ending with email from D. Christal to R. Dolden dated June 15, 2015, subject: "Income Statement/Licensing/Liqwd Inc IP"	H; FO
3034	5/18/2015	LO_USA0002466	LO_USA0002466	Email from D. Christal to R. Dolden and M. Gringauz dated May 18, 2015, subject: "NDA for Meeting Tomorrow"	No Objection
3035	6/11/2015	LO_USA0002495	LO_USA0002497	Email chain ending with email from D. Christal to R. Dolden, dated June 11, 2015, RE: Project Olivia	H; FO
3036	6/11/2015	LO_USA0002498	LO_USA0002500	Email chain ending with from D. Christal to R. Dolden, dated June 11, 2015, RE: Project Olivia	H; FO
3037	5/23/2015	LO_USA0002506	LO_USA0002511	Email from R. Dolden to D. Christal, M. Gringauz, and R. Dolden, dated May 23, 2015, attaching Rodger D liq.pdf	No Objection
3038	9/9/2016	LO_USA0002817	LO_USA0002889	Document RE: "Quantitative Professional Blind Use Test"	H; FO; REL
3039	7/22/2016	LO_USA0002890	LO_USA0002933	Presentation RE: "pH-Bonder, Bond Protecting Additive, Trainer's Guide"	H; FO
3040	11/23/2015	LO_USA0002934	LO_USA0002960	StreetLink, Nov. 23, 2015 issue	H; FO
3041	7/22/2016	LO_USA0002961	LO_USA0003004	Presentation: "pH-Bonder, Bond Protecting Additive"	H; FO; 403 (cumulative, see, e.g., TX 3039)
3042	7/31/2016	LO_USA0004226	LO_USA0004253	Document RE: "NYTS, Matrix Bond Ultim8"	H; FO
3043				Intentionally Left Blank	
3044				Intentionally Left Blank	
3045				Intentionally Left Blank	
3046				Intentionally Left Blank	
3047				Intentionally Left Blank	
3048	9/1/2015	LO_USA0004276	LO_USA0004276	Email from R. Dolden to D. Christal dated Sept. 1, 2015, subject: "Today"	No Objection
3049	8/31/2015	LO_USA0004277	LO_USA0004280	Email chain ending with email from R. Dolden to D. Christal dated Aug. 31, 2015, RE: Meeting Dates	No Objection

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3050	6/19/2015	LO_USA0004281	LO_USA0004283	Email chain ending with email from R. Dolden to D. Christal dated June 19, 2015, subject: "RE: Income Statement/Licensing/Liqwd Inc IP"	H; FO
3051	6/13/2015	LO_USA0004284	LO_USA0004284	Email chain ending with email from R. Dolden to D. Christal dated June 13, 2015, RE: Olivia	H; FO
3052	5/24/2015	LO_USA0004285	LO_USA0004285	Email chain ending with email from R. Dolden to D. Christal dated May 24, 2015, RE: Rodger D liq.pdf	H; FO; CP
3053	8/27/2015	LO_USA0004286	LO_USA0004288	Email chain ending with email from D. Christal to R. Dolden dated Aug. 27, 2015, RE: Meeting Dates	No Objection
3054	8/20/2015	LO_USA0004289	LO_USA0004291	Email chain ending with email from D. Christal to R. Dolden dated Aug. 20, 2015, RE: Meeting Dates	403 (cumulative)
3055	8/7/2015	LO_USA0004292	LO_USA0004292	Email chain ending with email from D. Christal to R. Dolden dated Aug. 7, 2015, RE: August 20?	403 (cumulative)
3056	8/10/2015	LO_USA0004293	LO_USA0004294	Email chain ending with email from D. Christal to R. Dolden dated Aug. 10, 2015, RE: August 24	403 (cumulative)
3057	8/10/2015	LO_USA0004295	LO_USA0004296	Email chain ending with email from D. Christal to R. Dolden dated Aug. 10, 2015, RE: August 20?	403 (cumulative)
3058	7/24/2015	LO_USA0004297	LO_USA0004297	Email chain ending with email from D. Christal to R. Snyder dated July 24, 2015, Subject: Rodger Dolden L'Oréal	H; FO; REL
3059	5/23/2015	LO_USA0004301	LO_USA0004307	Email from D. Christal to M. Gringauz and R. Dolden dated May 23, 2015, Subject: Rodger D liq.pdf	H; FO; CP; 403 (cumulative)
3060	6/21/2015	LO_USA0004309	LO_USA0004311	Email chain ending with email from D. Christal to R. Dolden dated June 21, 2015, RE: Income Statement/Licensing/Liqwd Inc IP	H; FO; 403 (cumulative)
3061	5/19/2015	LO_USA0004312	LO_USA0004312	Email from D. Christal to R. Dolden dated May 19, 2015, Subject: Copy of Costed BOM's with margins	H; FO; 403 (cumulative)
3062	6/10/2015	LO_USA0004313	LO_USA0004314	Email chain ending with email from D. Christal to R. Dolden dated June 10, 2015, Subject: Olaplex	H; FO; 403 (cumulative)
3063	6/21/2015	LO_USA0004315	LO_USA0004317	Email chain ending with email from D. Christal to R. Dolden dated June 21, 2015, RE: Income Statement/Licensing/Liqwd Inc IP	H; FO; 403 (cumulative)

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3064	5/14/2015	LO_USA0004318	LO_USA0004319	Email chain ending with email from D. Christal to R. Dolden dated May 14, 2015, RE: Project Olivia - Confidential	No Objection
3065	6/21/2015	LO_USA0004320	LO_USA0004322	Email chain ending with email from D. Christal to R. Dolden dated June 21, 2015, RE: Income Statement/Licensing/Liqwd Inc IP	H; FO
3066	6/22/2015	LO_USA0004323	LO_USA0004324	Email chain ending with email from D. Christal to R. Dolden dated June 22, 2015, Subject: FWD: Olaplex Surveys - Results to date	No Objection
3067	5/4/2015	LO_USA0004325	LO_USA0004337	Document RE: Olaplex User Survey, Results April 30-May 3, 2015	No Objection
3068	5/1/2015	LO_USA00049690	LO_USA00049691	Email chain ending with email from R. Dolden to S. Habif, H. Kunetz, J. Pahin, H. Toutain, J. Ascione, F. Cervantes, C. Goget, and Y. Land, dated May 1, 2015, attaching OLIVIA RI Review pre DD April 29 v3	H; FO; CP
3069	6/9/2015	LO_USA00072680	LO_USA00072686	Email chain ending with email from R. Dolden to S. Habif dated June 9, 2015, Subject: FWD: Olivia	No Objection
3070				Intentionally Left Blank	
3071	5/22/2015	LO_USA0007880	LO_USA0007885	Email chain ending with email from R. Dolden to H. Kunetz, dated May 22, 2015, attaching Detailed Notes of May 19	No Objection
3072	9/9/2016	LO_USA0008584	LO_USA0008584	Email chain ending with email from B. Fontaine to L. Marino, P. Schiraldi, L. Morris, G. Meggo, P. Sharnsky, A. Lopez, P. Palladino, S. Newton-Smith, V. Stults, S. Orzel, and P. Parenty, dated September 9, 2016	H; FO; CP
3073	9/9/2016	LO_USA0008585	LO_USA0008585	Email chain ending with email from K. Tucker to Lisa Morris, M. Ryan, and M. Arce, dated September 9, 2016	H; FO; CP
3074	1/14/2003	LO_USA0008708	LO_USA0008720	Korean Patent Application Pub. No. KR2003-0003970 to Kim et al.	H
3075	6/16/2006	LO_USA0008721	LO_USA0008726	U.S. Patent No. 7,044,986 to Ogawa	H
3076	7/14/1966	LO_USA0008727	LO_USA0008728	German Patent Application No. DE 1220969	A; REL; 403
3077	7/14/1966	LO_USA0008729	LO_USA0008735	Translation of German Patent Application No. DE 1220969	A; REL; 403

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3078	6/2/2006	LO_USA0008736	LO_USA0008748	Korean Patent Application Pub. No. KR 2006-0059564	H
3079	6/2/2006	LO_USA0008749	LO_USA0008761	Translation of Korean Patent Application Pub. No. KR 2006-0059564	A; REL; 403
3080				Intentionally Left Blank	
3081	10/15/2013	LO_USA0008843	LO_USA0008852	U.S. Patent No. 8,556,992 ("DeGeorge")	H
3082	3/19/2002	LO_USA0008853	LO_USA0008858	U.S. Patent No. 6,358,502 ("Tanabe")	H
3083	2/7/2013	LO_USA0008875	LO_USA0008895	U.S. Patent Application Pub. No. US 2013/0034515A1 ("Stone")	H
3084	12/19/2002	LO_USA0008988	LO_USA0008996	U.S. Patent Application Pub. No. US 2002/0189034 ("Kitabata")	H
3085	6/22/1993	LO_USA0008997	LO_USA0009001	U.S. Patent No. 5,221,286 ("Singleton")	H
3086	12/31/2014	LO_USA0009002	LO_USA0009057	International Patent Application Pub. No. WO 2014/207097 ("Wahler")	REL; 403
3087	6/19/2008	LO_USA0009058	LO_USA0009069	U.S. Patent Application Pub. No. 2008/0141468 ("Cotteret")	H
3088	3/16/2016	LO_USA0009070	LO_USA0009075	Material Safety Data Sheet FIBREPLEX No 1 bond booster	A; REL; 403
3089	2/28/2018	LO_USA0009077	LO_USA0009082	Fibreplex No. 1 Product Label ("Fibreplex Label"), LO_USA0009076, and Schwarzkopf Professional Launches Fibreplex, estetica.it (2/28/2018), http://estatica.it/int/a/schwarzkopf-professional-launches-fibreplex	AU, FO, H, REL, 403
3090	1997	LO_USA0009083	LO_USA0009176	J. Alan Swift, Fundamentals of Human Hair Science (Hilda Butler ed., 1997)	FO, H
3091		LO_USA0009194	LO_USA0009234	Keith C. Brown & Stanley Pohl, Permanent Hair Dyes, Society of Cosmetic Chemists, Monograph	FO, H, REL
3092	3/2/1999	LO_USA0009236	LO_USA0009249	U.S. Patent No. 5,877,204 ("Davison")	H
3093	1938	LO_USA0009250	LO_USA0009259	Edward James Morgan & Ernest Friedmann, C. Interaction of Maleic Acid with Thiol Compounds, 32(4) Biochem. J. 733 (1938)	REL; 403; FO
3094	1992	LO_USA0009486	LO_USA0009493	Excerpts of CTFA Cosmetic Ingredient Handbook (John A. Wenninger & G.N. McEwen eds., Cosmetic, Toiletry, and Fragrance Ass'n 2d ed. 1992)	BE, CP, FO, H
3095				Intentionally Left Blank	

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3096	2010	LO_USA0009580	LO_USA0009587	Justin W. Chan et al., Nucleophile-Initiated Thiol-Michael Reactions: Effect of Organocatalyst, Thiol, and Ene, 43 Macromolecules 6381 (2010)	REL; 403
3097	9/2015	LO_USA0009591	LO_USA0009591	Document RE: Fibreplex No. 1 Bond Booster	A; REL; 403; FO
3098	2010	LO_USA0009592	LO_USA0009599	Matthew J. Kade, Daniel J. Burke, & Craig J. Hawker, The Power of Thiol-ene Chemistry, 48 J. Polym. Sci. Part A: Polym. Chem. 743 (2010)	REL; 403
3099	5/31/2013	LO_USA0009601	LO_USA0009606	Steven Isaacman & Michael Isaacman, Just Click It: New Chemical Reactions for Cosmetic Applications, Cosmetics & Toiletries (May 31, 2013)	REL; 403
3100	2001	LO_USA0009607	LO_USA0009624	Hartmuth C. Kolb et al., Click Chemistry: Diverse Chemical Function from a Few Good Reactions, 40 Angew. Chem. Int. Ed. 2004 (2001)	REL; 403
3101	2014	LO_USA0009660	LO_USA0009680	Devatha P. Nair et al., The Thiol-Michael Addition Click Reaction: A Powerful and Widely Used Tool in Materials Chemistry, 26 Chem. Mater. 724 (2014)	REL; 403
3102	2011	LO_USA0009681	LO_USA0009699	William H. Brown et al., Organic Chemistry (5th ed. 2011)	REL; 403
3103				Intentionally Left Blank	
3104	1997	LO_USA0010078	LO_USA0010091	Max Feughelman, Morphology and Properties of Hair, Hair and Hair Care 1-12 (Dale H. Johnson ed. 1997)	REL; 403
3105	1997	LO_USA0010137	LO_USA0010153	Keith C. Brown, Hair Coloring, Hair and Hair Care 191-215 (Dale H. Johnson ed., 1997)	FO, H
3106				Intentionally Left Blank	
3107				Intentionally Left Blank	
3108	2003	LO_USA0010376	LO_USA0010383	Riki Canari & Aharon M. Eyal, Effect of pH on Dicarboxylic Acids Extraction by Amine-Based Extractants, 42 Ind. Eng. Chem. Res. 1293 (2003)	REL; 403
3109	1986	LO_USA0010384	LO_USA0010387	Steven S. Zumdahl, Chemistry 621-22 (D.C. Heath and Company 1986)	REL; 403
3110				Intentionally Left Blank	
3111	9/2/2000	LO_USA0010671	LO_USA0010682	European Patent Application Pub. No. EP 0978272 ("Nagase")	REL; 403; FO

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3112	5/2013	LO_USA0010687	LO_USA0010692	Be Your Mood, Mintel Database Entry	A; REL; 403
3113				Intentionally Left Blank	
3114	2012	LO_USA0010750	LO_USA0010795	Thomas Clausen et al., Hair Preparations, Ullmann's Encyclopedia of Industrial Chemistry 204-47 (2012)	REL; 403
3115	12/1/2017	LO_USA0010809	LO_USA0010809	Ulf Akerstrom, Statement of the Use of Maleic Acid, Letter from Hardford AB	REL; 403
3116				Intentionally Left Blank	
3117	9/2/2015	LO_USA0010873	LO_USA0010873	14-4285D-1 INNO SEQ with BONDING Step 2 EDR	A; REL; 403; FO
3118				Intentionally Left Blank	
3119				Intentionally Left Blank	
3120				Intentionally Left Blank	
3121	10/16/2015	LO_USA0010958	LO_USA0010959	14-4285D-1 INNO SEQ with BONDING Step 2 PEC Test Summary	A; REL; 403; FO
3122	9/10/2015	LO_USA0010962	LO_USA0010963	14-4285D-3 INNO SEQ with BONDING ADDITIVE Step 1 and Step 2 EDR	A; REL; 403; FO
3123	11/6/2015	LO_USA0010985	LO_USA0010985	14-4285D-7 INNO L'OREAL ADDITIVE P4 C8 v P4 C3 EDR	A; REL; 403; FO
3124	9/30/2015	LO_USA0010988	LO_USA0010989	144285C16R INNO L'OREAL ADDITIVE System Steps 1 and 2 - 1st Recheck PEC Test Summary	A; REL; 403; FO
3125	4/14/2016	LO_USA0010991	LO_USA0010993	14-4285D6X INNO L'OREAL ADDITIVE System vs System P12 vs P4 Expert Test Summary	A; REL; 403; FO
3126	3/18/2016	LO_USA0010994	LO_USA0010997	Email from K. Dreher to G. David dated 3-18-2016; Re: EV1603-0405 - Study request Sensorial (37567 RDK, 1129634IN2, 37817 RDK)	A; REL; 403; FO
3127	9/11/2015	LO_USA0010998	LO_USA0011018	14-4285D-1 INNO SEQ with BONDING Results	A; REL; 403; FO
3128	11/3/2016	LO_USA0011019	LO_USA0011038	14-4285D10R INNO ADDITIVES BOOSTERS P12C18 v P4C8 EV1608-0566 Results	A; REL; 403; FO
3129	11/3/2016	LO_USA001103	LO_USA001142	14-4285D10 INNO ADDITIVES BOOSTERS P12C18 v P4C8 EV1608-0566 Expert Test Summary	A; REL; 403; FO
3130	3/8/2016	LO_USA0011043	LO_USA0011059	14-4285F-2 INNO ADDITIVES BOOSTERS BONDING EV1602-0125 Results	A; REL; 403; FO
3131	9/30/2015	LO_USA0011060	LO_USA0011072	144285C16R INNO L'OREAL ADDITIVE Results	A; REL; 403; FO
3132	7/31/2015	LO_USA0011078	LO_USA0011079	144285C10S INNO L'OREAL BONDING System Steps 1 and 2 EDR	A; REL; 403; FO

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3133	3/13/2015	LO_USA0011087	LO_USA0011089	14-4285P3S Test Results	A; REL; 403; FO
3134	10/28/2015	LO_USA0011091	LO_USA0011094	14-4285D-4 INNO L'OREAL ADDITIVE System vs System PEC Test Summary	A; REL; 403; FO
3135	10/19/2015	LO_USA0011095	LO_USA0011125	14-4285C17S INNO L'OREAL BONDING Results	A; REL; 403; FO
3136	7/11/2016	LO_USA0011126	LO_USA0011142	14-4285F-3 INNO ADDITIVES BOOSTERS BONDING -Diluted P12C8 vs diluted P4C8 EV1603-0405 Results	A; REL; 403; FO
3137	2/2/2016	LO_USA0011143	LO_USA0011145	14-4285D8R INNO L'OREAL ADDITIVE System vs System P12C8 v O rcks PEC Test Summary	A; REL; 403; FO
3138	12/2/2015	LO_USA0011146	LO_USA0011148	14-4285D7R INNO L'OREAL ADDITIVE P4 C8 v P4 C3 2 returns PEC Test Summary	A; REL; 403; FO
3139	8/24/2015	LO_USA0011151	LO_USA0011181	Report PPE-CE-US-15-004 Bonding Additive with Treatment	A; REL; 403; FO
3140	3/7/2016	LO_USA0011182	LO_USA0011187	AR Bonding Screening P4 APTES C8 EV1602-0368	A; REL; 403; FO
3141	7/14/2015	LO_USA0011188	LO_USA0011188	14-4285C5S -INNO L'OREAL ADDITIVE step 1 and 2 EDR	A; REL; 403; FO
3142				Intentionally Left Blank	
3143				Intentionally Left Blank	N/A
3144	2/13/2015	LO_USA0011221	LO_USA0011222	14-4285P2S INNO LOreal Regimen2 vs Olaplex EDR	A; REL; 403; FO
3145	8/12/2015	LO_USA0011223	LO_USA0011223	144285C13S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3146				Intentionally Left Blank	
3147	2/24/2015	LO_USA0011226	LO_USA0011241	14-4285P-1 L'Oreal additive vs Olaplex Results	A; REL; 403; FO
3148	10/19/2016	LO_USA0011242	LO_USA0011247	14-4285D-6 + D-6R INNO L'OREAL ADDITIVE System vs System P12 vs P4 Expert Test Summary	A; REL; 403; FO
3149	11/18/2015	LO_USA0011248	LO_USA0011255	14-4285D7R1 INNO L'OREAL ADDITIVE P4 C8 vs P4 C3 Results	A; REL; 403; FO
3150				Intentionally Left Blank	
3151	12/11/2015	LO_USA0011258	LO_USA0011258	14-4285D-8R INNO BONDING vs OLAPLEX w SEQ Steps 1 and 2 rcks EDR	A; REL; 403; FO
3152	2/3/2016	LO_USA0011260	LO_USA0011263	Email from K. Dreher to G. David dated 2/3/2016; Re: EV1602-0125 - Study request Sensorial (37817 RDK, 1129634IN2)	A; REL; 403; FO
3153	2/4/2016	LO_USA0011264	LO_USA0011264	14-4285F-1 INNO ADDITIVES BOOSTERS BONDING EV1602-0029 EDR	A; REL; 403; FO
3154	8/12/2015	LO_USA0011265	LO_USA0011266	144285C12S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO

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3155	7/11/2016	LO_USA0011267	LO_USA0011287	14-4285F3R INNO ADDITIVES BOOSTERS BONDING -Diluted P12C8 vs diluted P4C8 EV1603-0405 Results	A; REL; 403; FO
3156	9/17/2015	LO_USA0011290	LO_USA0011290	144285C16R INNO L'OREAL ADDITIVE System Steps 1 and 2 - 3 Rechecks EDR	A; REL; 403; FO
3157				Intentionally Left Blank	
3158				Intentionally Left Blank	
3159	7/8/2015	LO_USA0011296	LO_USA0011297	14-4285C-3 INNO LOREAL ADDITIVE STEP 2 ONLY EDR	A; REL; 403; FO
3160	9/2/2015	LO_USA0011298	LO_USA0011298	144285C14R INNO L'OREAL ADDITIVE System Steps 1 and 2 - 3 Rechecks EDR	A; REL; 403; FO
3161				Intentionally Left Blank	N/A
3162	4/26/2016	LO_USA0011302	LO_USA0011303	Bonding System DECODE	A; REL; 403; FO
3163	3/22/2016	LO_USA0011304	LO_USA0011305	14-4285F-3 INNO ADDITIVES BOOSTERS BONDING -Diluted P12C8 vs diluted P4C8 EV1603-0405 EDR	A; REL; 403; FO
3164	7/24/2015	LO_USA0011306	LO_USA0011306	Hair Color Evaluation Form, Project 14-4285A18 PEC	A; REL; 403; FO
3165	12/2/2015	LO_USA0011308	LO_USA0011310	Expert / Professional Evaluations Chart	A; REL; 403; FO
3166	7/24/2015	LO_USA0011311	LO_USA0011311	Hair Color Evaluation Form, Project 44285C552	A; REL; 403; FO
3167				Intentionally Left Blank	
3168	7/23/2015	LO_USA0011313	LO_USA0011314	14-4285C8S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3169	7/31/2015	LO_USA0011315	LO_USA0011316	144285C9SR INNO L'OREAL BONDING System Steps 1 and 2 EDR	A; REL; 403; FO
3170	9/10/2015	LO_USA0011317	LO_USA0011318	14-4285D-2 INNO SEQ with BONDING Step 2 EDR	A; REL; 403; FO
3171	10/16/2015	LO_USA0011319	LO_USA0011322	Result comparison chart for 14-4285C8S, 144285C14S, 144285C16S	A; REL; 403; FO
3172	4/16/2015	LO_USA0011323	LO_USA0011328	Olaplex Expert Evaluation Characterization	A; REL; 403; FO
3173	8/8/2016	LO_USA0011329	LO_USA0011349	14-4285D8R INNO L'OREAL ADDITIVE System vs System Results	A; REL; 403; FO
3174	3/23/2016	LO_USA0011350	LO_USA0011370	14-4285F2R INNO ADDITIVES BOOSTERS BONDING Results	A; REL; 403; FO
3175				Intentionally Left Blank	N/A
3176	5/23/2016	LO_USA0011372	LO_USA0011391	14-4285D6R INNO L'OREAL ADDITIVE System vs System P12 vs P4 Results	A; REL; 403; FO
3177				Intentionally Left Blank	N/A
3178	2/27/2015	LO_USA0011393	LO_USA0011394	14-4285P3 INNO LOreal Regimen CE15021-0287 Base EDR	A; REL; 403; FO

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3179				Intentionally Left Blank	
3180	2/9/2015	LO_USA0011397	LO_USA0011400	Email from K. Hamilton to M. Applebaum et al. dated 2/9/2015; subject: CE1502-0082- Request Tests- Hair Color (37149 RDK-US4764, 1129564IN1-US4764, 1082614RK3-1082614RK3, 1082626RK2-1082626RK2, 178914 U-437013 U, 1152406-1152406)	A; REL; 403; FO
3181	6/4/2015	LO_USA0011401	LO_USA0011422	Questionnaire: ADDBASES15, Post Color Treatments 2015 5/28/2015 Screen 6	A; REL; 403; FO
3182				Intentionally Left Blank	
3183	9/8/2016	LO_USA0011426	LO_USA0011474	Evaluation screen results Step 1 P4 + Step 2's	A; REL; 403; FO
3184	8/27/2015	LO_USA0011475	LO_USA0011502	Report PPE-CE-US-15-003 Bonding Additive Workshop July 2015	A; REL; 403; FO
3185				Intentionally Left Blank	N/A
3186	9/9/2015	LO_USA0011513	LO_USA0011518	14-4285C INNO L'OREAL Bonding Step 2 Comparison Results	A; REL; 403; FO
3187				Intentionally Left Blank	N/A
3188				Intentionally Left Blank	N/A
3189	10/30/2015	LO_USA0011523	LO_USA0011546	144285C14S Product Comparison Results	A; REL; 403; FO
3190	9/30/2015	LO_USA0011547	LO_USA0011565	144285C14R INNO L'OREAL ADDITIVE P4 C3 Results	A; REL; 403; FO
3191	8/14/2015	LO_USA0011568	LO_USA0011584	14-4285C-8 Product Comparison Results	A; REL; 403; FO
3192	8/5/2015	LO_USA0011585	LO_USA0011607	14-4285C8S Olaplex System Results	A; REL; 403; FO
3193	9/14/2016	LO_USA0011608	LO_USA0011623	14-4285F-4 INNO ADDITIVES BOOSTERS Diluted P4+ C8 vs diluted P12+C18 Results	A; REL; 403; FO
3194	7/7/2015	LO_USA0011624	LO_USA0011625	14-4285C-INNO L'OREAL ADDITIVE step 1 and 2 EDR	A; REL; 403; FO
3195	8/11/2015	LO_USA0011626	LO_USA0011626	144285C12R INNO L'OREAL ADDITIVE System Steps 1 and 2 - 3 RCKS EDR	A; REL; 403; FO
3196	10/20/2015	LO_USA0011627	LO_USA0011628	14-4285D-4 INNO L'OREAL ADDITIVE System v System EDR	A; REL; 403; FO
3197	9/17/2015	LO_USA0011629	LO_USA0011629	144285C16S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3198	6/29/2016	LO_USA0011630	LO_USA0011633	14-4285D-6 INNO L'OREAL ADDITIVE System vs System P12 vs P4 Expert Test Summary	A; REL; 403; FO
3199	9/25/2015	LO_USA0011636	LO_USA0011638	144285C16S INNO L'OREAL ADDITIVE System Steps 1 and 2 PEC Test Summary	A; REL; 403; FO
3200	8/24/2015	LO_USA0011639	LO_USA0011640	144285C14S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO

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3201				Intentionally Left Blank	
3202				Intentionally Left Blank	
3203				Intentionally Left Blank	
3204	8/8/2016	LO_USA0011742	LO_USA0011751	AR Bonding Next Gen Screening	A; REL; 403; FO
3205	8/31/2015	LO_USA0011752	LO_USA001154	144285C10S INNO L'OREAL ADDITIVE System Steps 1 and 2 PEC Test Summary	A; REL; 403; FO
3206	4/6/2016	LO_USA0011755	LO_USA0011775	14-4285F1R INNO ADDITIVES BOOSTERS BONDING Results	A; REL; 403; FO
3207	10/11/2016	LO_USA0011776	LO_USA0011781	14-4285D-8 INNO LOREAL ADDITIVE System vs. System P12 vs Olaplex PEC Test Summary	A; REL; 403; FO
3208	9/17/2015	LO_USA0011786	LO_USA0011786	144285C16S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3209	12/23/2015	LO_USA0011787	LO_USA0011787	14-4285D-9 INNO L'OREAL ADDTIVE P12 C18 v P12 C8 EDR	A; REL; 403; FO
3210				Intentionally Left Blank	
3211	8/5/2015	LO_USA0011801	LO_USA0011818	144285C10S INNO L'OREAL ADDITIVE step 1 and 2 Results	A; REL; 403; FO
3212				Intentionally Left Blank	
3213	8/22/2015	LO_USA0011823	LO_USA0011839	14-4285C10 INNO L'OREAL Bonding Step 2 Comparison Results	A; REL; 403; FO
3214	8/31/2015	LO_USA0011847	LO_USA0011868	144285C12S INNO ADDITIVE System Steps 1 and 2 Results	A; REL; 403; FO
3215	8/24/2016	LO_USA0011870	LO_USA0011873	Email from K. Dreher to G. David dated 8/24/2016 Re: EV1608-0566 - Study request Sensorial (38437 RDK, 1129634IN26)	A; REL; 403; FO; H; BE
3216	11/3/2015	LO_USA0011874	LO_USA0011875	14-4285D-6 INNO L'OREAL ADDITIVE System vs System P12 vs P4 EDR	A; REL; 403; FO
3217	10/19/2015	LO_USA0011876	LO_USA0011906	144285C17S INNO L'OREAL ADDITIVE System Steps 1 and 2 Results	A; REL; 403; FO
3218	3/11/2016	LO_USA0011907	LO_USA0011916	AR Bonding Screening P4 C8 and Carbodilite EV1602-0367	A; REL; 403; FO
3219	2/13/2015	LO_USA0011917	LO_USA0011918	14-4285P1 INNO LOreal Regimen vs Olaplex - Bleach CE1502- 00082 (Base) EDR	A; REL; 403; FO
3220	3/14/2016	LO_USA0011919	LO_USA0011920	14-4285F-2 INNO ADDITIVES BOOSTERS BONDING EV1602- 0025 Chart	A; REL; 403; FO

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3221	8/12/2015	LO_USA0011922	LO_USA0011945	144285C10S Product Comparison Results	A; REL; 403; FO
3222	8/6/2015	LO_USA0011946	LO_USA0011968	144285C11S INNO LOREAL Steps 1 and 2 Results	A; REL; 403; FO
3223	8/5/2016	LO_USA0011969	LO_USA0011972	Email from K. Dreher to G. David dated 8-5-2016 Re: EV1608-0181 - Study request Sensorial (37567 RDK, 1129634IN2, US4764)	A; REL; 403; FO; H; BE
3224	8/3/2016	LO_USA0011973	LO_USA0011992	14-4285D-9 INNO L'OREAL P12 C18 vs P12 C8 Results	A; REL; 403; FO
3225	4/8/2016	LO_USA0011993	LO_USA0011997	14-4285F-2(R) INNO ADDITIVES BOOSTERS BONDING EV1602-0125 Expert Test Summary	A; REL; 403; FO
3226				Intentionally Left Blank	
3227	2/13/2015	LO_USA0012017	LO_USA0012018	14-4285P2 INNO LOreal Regimen2 vs Olaplex EDR	A; REL; 403; FO
3228	5/24/2016	LO_USA0012019	LO_USA0012043	AR Swatch Session 5 Chart	A; REL; 403; FO
3229	10/6/2016	LO_USA0012044	LO_USA0012063	14-4285F-5 INNO ADDITIVES BOOSTERS Diluted P4+ C8 vs diluted P12+C18 Results	A; REL; 403; FO
3230	5/23/2016	LO_USA0012064	LO_USA0012066	14-4285D6R INNO L'OREAL ADDITIVE System vs System P12 vs P4 RCK Expert Test Summary	A; REL; 403; FO
3231				Intentionally Left Blank	
3232				Intentionally Left Blank	
3233	8/14/2015	LO_USA0012078	LO_USA0012079	14-4285C-7 INNO LOREAL BONDING STEP 2 EDR	A; REL; 403; FO
3234	8/14/2015	LO_USA0012080	LO_USA0012081	14-4285C-8 INNO LOREAL BONDING STEP 2 EDR	A; REL; 403; FO
3235	7/14/2015	LO_USA0012082	LO_USA0012094	14-4285C-4 Product Comparison Results	A; REL; 403; FO
3236	9/19/2016	LO_USA0012099	LO_USA0012100	14-4285F-5 INNO ADDITIVES BOOSTERS Diluted P4+ C8 vs diluted P12+C18 EV1608-0569	A; REL; 403; FO
3237	2/4/2016	LO_USA0012101	LO_USA0012102	14-4285F-2 INNO ADDITIVES BOOSTERS BONDING EV1602-0125 EDR	A; REL; 403; FO
3238	10/21/2015	LO_USA0012103	LO_USA0012113	144285C17R Product Comparison Results	A; REL; 403; FO
3239	7/17/2015	LO_USA0012114	LO_USA0012122	144285C5SR INNO L'OREAL ADDITIVE System Results	A; REL; 403; FO
3240	10/19/2015	LO_USA0012123	LO_USA0012138	INNO ADDITIVE Comparison charts	A; REL; 403; FO
3241	12/23/2015	LO_USA0012139	LO_USA0012141	14-4285D-8 INNO L'OREAL ADDITIVE System vs System P12 vs O PEC Test Summary	A; REL; 403; FO
3242	2/13/2015	LO_USA0012144	LO_USA0012145	14-4285P1S INNO LOreal Regimen vs Olaplex EDR	A; REL; 403; FO
3243	7/28/2015	LO_USA0012146	LO_USA0012169	Questionnaire: ADDBASE15, Post Color Treatments 2015 6/29/15 screen 8	A; REL; 403; FO
3244	11/17/2015	LO_USA0012170	LO_USA0012173	Document entitled Bonding All Metiers - Expert Evaluation	A; REL; 403; FO

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3245	8/22/2015	LO_USA0012174	LO_USA0012190	14-4285C11 INNO L'OREAL Bonding Step 2 Comparison Results	A; REL; 403; FO
3246	1/19/2016	LO_USA0012191	LO_USA0012193	14-4285D-9 INNO L'OREAL ADDITIVE P12 +C18 vs P12 +C8 PEC Test Summary	A; REL; 403; FO
3247				Intentionally Left Blank	N/A
3248	10/26/2015	LO_USA0012195	LO_USA0012195	14-4285D-5 INNO L'OREAL ADDITIVE SYSTEM TO SYSTEM P11C19 P4C8	A; REL; 403; FO
3249	8/26/2016	LO_USA0012196	LO_USA0012197	14-4285D10 INNO ADDITIVES BOOSTERS P12/C18 v P4/C8 EV1608-0566 EDR	A; REL; 403; FO
3250	4/6/2016	LO_USA0012198	LO_USA0012202	14-4285F-1, F1R INNO ADDITIVES BOOSTERS BONDING EV1602-0029 Expert Test Summary	A; REL; 403; FO
3251	3/22/2016	LO_USA0012203	LO_USA0012206	Email from K. Dreher to G. David dated 3-22-2016 Re: EV1603-0891 - Study request Sensorial (37567 RDK, 1129634IN2, 37817 RDK)	A; REL; 403; FO; H; BE
3252	9/2/2015	LO_USA0012207	LO_USA0012207	144285C14R INNO L'OREAL ADDITIVE System Steps 1 and 2 - 3 Rechecks EDR	A; REL; 403; FO
3253	8/1/2016	LO_USA0012208	LO_USA0012212	14-4285F-3 INNO ADDITIVES BOOSTERS BONDING -Diluted P12C8 vs diluted P4C8 EV1603-0405 Expert Test Summary	A; REL; 403; FO
3254	1/13/2016	LO_USA0012213	LO_USA0012246	Step 1 P4 + Step 2's Evaluation chart	A; REL; 403; FO
3255	9/17/2015	LO_USA0012247	LO_USA0012247	144285C16R INNO L'OREAL ADDITIVE System Steps 1 and 2 - 3 Rechecks EDR	A; REL; 403; FO
3256	4/26/2016	LO_USA0012248	LO_USA0012302	14-4285D-6 P12 vs P4 RESULTS	A; REL; 403; FO
3257	8/13/2015	LO_USA0012303	LO_USA0012324	144285C12S Product Comparison Steps 1 and 2 Results	A; REL; 403; FO
3258	2/9/2016	LO_USA0012326	LO_USA0012347	AR BondingSystems chart	A; REL; 403; FO
3259	9/8/2015	LO_USA0012350	LO_USA0012351	Copy of 14-4285D-1 INNO SEQ with BONDING Step 2 PEC Test Summary	A; REL; 403; FO
3260	8/14/2015	LO_USA0012352	LO_USA0012353	Result Topline Stylist Workshop Project dated July 14, 2015, Project Orch# - 2014-4285/A	A; REL; 403; FO
3261	10/28/2015	LO_USA0012354	LO_USA0012381	14-4285D-4 P11+C8 v P4+C* Comparison Results	A; REL; 403; FO
3262	8/13/2015	LO_USA0012382	LO_USA0012396	14-4285C-9 INNO L'OREAL Bonding step 2 Results	A; REL; 403; FO
3263	8/13/2015	LO_USA0012397	LO_USA0012418	144285C13S INNO L'OREAL ADDITIVE step 1 and 2 Results	A; REL; 403; FO

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3264	2/2/2016	LO_USA0012419	LO_USA0012446	14-4285C17S INNO L'OREAL ADDITIVE Step 1 and 2 Results	A; REL; 403; FO
3265	2/24/2015	LO_USA0012447	LO_USA0012464	14-4285P-2 Additive Comparison Results	A; REL; 403; FO
3266	7/15/2015	LO_USA0012465	LO_USA0012485	14-4285C5S INNO L'OREAL ADDITIVE Step 1 and 2 Results	A; REL; 403; FO
3267	3/24/2015	LO_USA0012486	LO_USA0012503	14-4285P-3 Additive Comparison Results	A; REL; 403; FO
3268	11/3/2016	LO_USA0012504	LO_USA0012508	14-4285D10 INNO ADDITIVES BOOSTERS P12C18 v P4C8 EV1608-0566 Expert Test Summary	A; REL; 403; FO
3269	8/5/2016	LO_USA0012509	LO_USA0012512	Email from K. Dreher to G. David dated 8-5-2016 Re: FW: EV1608-0182 - Study request Sensorial (37567 RDK, 1129634IN2, 112963IN26)	A; REL; 403; FO; H; BE
3270	8/3/2016	LO_USA0012513	LO_USA0012532	14-4285D-9 INNO L'OREAL P12 C18 vs P12 C8 RESULTS	A; REL; 403; FO
3271	10/3/2016	LO_USA0012533	LO_USA0012535	14-4285F-4 INNO ADDITIVES BOOSTERS Diluted P4+ C8 vs diluted P12+C18 EV1608-0569 Expert Test Summary	A; REL; 403; FO
3272	9/25/2015	LO_USA0012536	LO_USA0012568	144285C16R System Additive Step 1 and Step 2 Results	A; REL; 403; FO
3273	8/14/2015	LO_USA0012569	LO_USA0012570	14-4285C11 INNO LOREAL ADDITIVE STEP 2 EDR	A; REL; 403; FO
3274	7/13/2015	LO_USA0012571	LO_USA0012582	Step 1 P4 + Additives Screening Results	A; REL; 403; FO
3275	1/19/2016	LO_USA0012583	LO_USA0012610	14-4285D-9 INNO L'OREAL ADDITIVE P12 +C18 vs P12 +C8 Results	A; REL; 403; FO
3276	10/20/2015	LO_USA0012611	LO_USA0012618	Additives Comparison Result Chart	A; REL; 403; FO
3277	8/22/2015	LO_USA0012620	LO_USA0012625	14-4285C INNO L'OREAL Bonding Step 2 Comparison Results	A; REL; 403; FO
3278	3/9/2016	LO_USA0012628	LO_USA0012648	14-4285D-6 INNO L'OREAL ADDITIVE SYSTEM TO SYSTEM P12 vs P4 Results	A; REL; 403; FO
3279	10/23/2015	LO_USA0012649	LO_USA0012650	14-4285D-5 INNO L'OREAL ADDITIVE System v System P11C19 P4C8 EDR	A; REL; 403; FO
3280	8/5/2015	LO_USA0012651	LO_USA0012660	144285C5SR INNO L'OREAL ADDITIVE System Comparison Results	A; REL; 403; FO
3281	12/16/2015	LO_USA0012678	LO_USA0012689	14-4285D7R1 INNO L'OREAL ADDITIVE P4 C8 vs P4 C3 Comparison Results	A; REL; 403; FO
3282	7/20/2015	LO_USA0012690	LO_USA0012704	14-4285C-6 INNO L'OREAL Bonding step 2 Comparison Results	A; REL; 403; FO

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3283	8/24/2015	LO_USA0012736	LO_USA0012737	144285C14S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3284	8/14/2015	LO_USA0012738	LO_USA0012756	14-4285C-7 BONDING Step 2 Comparison Results	A; REL; 403; FO
3285	7/23/2015	LO_USA0012763	LO_USA0012764	144285C7SR INNO L'OREAL ADDITIVE System Steps 1 and 2 3 EDR	A; REL; 403; FO
3286	10/25/2016	LO_USA0012769	LO_USA0012772	14-4285F-5 INNO ADDITIVES BOOSTERS Diluted P4 C8 vs diluted P12 C18 EV1608-0569 Expert Test Summary	A; REL; 403; FO
3287				Intentionally Left Blank	N/A
3288	10/6/2016	LO_USA0012805	LO_USA0012833	14-4285D10 INNO ADDITIVES P12+C18 v P4+C8 EV1608- 0566 Comparison Results	A; REL; 403; FO
3289	11/3/2016	LO_USA0012834	LO_USA0012862	14-4285D10 INNO ADDITIVES P12C18 v P4C8 EV1608-0566 Comparison Results	A; REL; 403; FO
3290				Intentionally Left Blank	N/A
3291	3/15/2016	LO_USA0012868	LO_USA0012870	14-4285F2R INNO ADDITIVES BOOSTERS BONDING EV1602- 0125 RCK Expert Test Summary	A; REL; 403; FO
3292	7/23/2015	LO_USA0012873	LO_USA0012874	144285C2R INNO L'OREAL ADDITIVE System Steps 1 and 2 EDR	A; REL; 403; FO
3293	5/17/2016	LO_USA0012875	LO_USA0012923	Bonding Project Status Report	A; REL; 403; FO
3294	8/22/2015	LO_USA0012925	LO_USA0012941	14-4285C-9 INNO L'OREAL Bonding Step 2 Comparison Results	A; REL; 403; FO
3295				Intentionally Left Blank	N/A
3296	9/25/2015	LO_USA0012943	LO_USA0012963	14-4285D-3 Inno L'Oreal Additive System Steps 1 and 2 Comparison Results	A; REL; 403; FO
3297	9/25/2015	LO_USA0012964	LO_USA0012996	144285C14R INNO BONDING STEP 1 AND STEP 2 Comparison Results	A; REL; 403; FO
3298	10/12/2016	LO_USA0012997	LO_USA0013000	14-4285D-9 INNO L'OREAL ADDITIVE P12 +C18 vs P12 +C8 EV1608-0182 Expert Test Summary	A; REL; 403; FO
3299	9/19/2016	LO_USA0013003	LO_USA0013004	14-4285F-5 INNO ADDITIVES BOOSTERS Diluted P4+ C8 vs diluted P12+C18 on DAMP HAIR EV1608-0569 EDR	A; REL; 403; FO
3300				Intentionally Left Blank	N/A
3301	7/16/2015	LO_USA0013022	LO_USA0013038	14-4285C-5 INNO Bonding Test	A; REL; 403; FO
3302	8/21/2015	LO_USA0013039	LO_USA0013040	14-4285C12 INNO LOREAL ADDITIVE STEP 2 ONLY EDR	A; REL; 403; FO
3303	12/30/2015	LO_USA0013041	LO_USA0013061	14-4285C8S INNO Bonding Additive Results	A; REL; 403; FO

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3304	7/9/2015	LO_USA0013062	LO_USA0013071	14-4285C-3 INNO Bonding Test Results	A; REL; 403; FO
3305	10/17/2016	LO_USA0013072	LO_USA0013091	14-4285H-1 INNO Bonding Test Results	A; REL; 403; FO
3306				Intentionally Left Blank	
3307	11/23/2015	LO_USA0013116	LO_USA0013127	14-4285D7R1 INNO L'OREAL ADDITIVE P4 C8 vs P4 C3	A; REL; 403; FO
3308	7/13/2015	LO_USA0013128	LO_USA0013138	14-4285C-4 INNO L'OREAL Bonding step 2 RESULTS	A; REL; 403; FO
3309	10/12/2016	LO_USA0013139	LO_USA0013140	14-4285H-1 INNO Bonding Test Results EV1610-0168 EDR	A; REL; 403; FO
3310	4/6/2016	LO_USA0013141	LO_USA0013143	14-4285F1R INNO ADDITIVES BOOSTERS BONDING EV1602-0029	A; REL; 403; FO
3311	9/15/2016	LO_USA0013144	LO_USA0013172	14-4285D10 INNO ADDITIVES BOOSTERS P12+C18 v P4+C8	A; REL; 403; FO
3312	9/25/2015	LO_USA0013173	LO_USA0013174	14-4285D-3 INNO SEQ with BONDING ADDITIVE Step 1 and Step 2	A; REL; 403; FO
3313	9/25/2015	LO_USA0013175	LO_USA0013202	144285C16S System Additive Step 1 and Step 2	A; REL; 403; FO
3314	8/31/2015	LO_USA0013203	LO_USA0013205	144285C12S INNO L'OREAL ADDITIVE steps 1 and 2	A; REL; 403; FO
3315	8/8/2016	LO_USA0013206	LO_USA0013225	14-4285D-9 INNO L'OREAL P12 C18 vs P12 C8 EV1608-0182	A; REL; 403; FO
3316	8/14/2015	LO_USA0013230	LO_USA0013231	14-4285C-6 INNO LOREAL ADDITIVE STEP 2	A; REL; 403; FO
3317	9/25/2015	LO_USA0013232	LO_USA0013260	144285C14S SYSTEM INNO BONDING Results	A; REL; 403; FO
3318	10/30/2015	LO_USA0013263	LO_USA0013288	144285C16S INNO L'OREAL ADDITIVE step 1 and 2 RESULTS	A; REL; 403; FO
3319	2/27/2015	LO_USA0013289	LO_USA0013290	14-4285P3S INNO LOreal Anti-Olaplex EDR shade	A; REL; 403; FO
3320	4/26/2016	LO_USA0013291	LO_USA0013307	14-4285F-1 INNO ADDITIVES BOOSTERS BONDING EV1602- 0029	A; REL; 403; FO
3321	3/8/2016	LO_USA0013308	LO_USA0013309	14-4285F-2 INNO ADDITIVES BOOSTERS BONDING EV1602- 0125	A; REL; 403; FO
3322	12/11/2015	LO_USA0013311	LO_USA0013312	14-4285D-8 INNO BONDING vs OLAPLEX w SEQ Steps 1 and 2	A; REL; 403; FO
3323	7/14/2015	LO_USA0013313	LO_USA0013314	14-4285C-5 INNO LOREAL ADDITIVE STEP 2	A; REL; 403; FO
3324	2/12/2015	LO_USA0013315	LO_USA0013317	Email from K. Hamilton G. David dated 2-12-2015 ; subject: CE1502-0084	A; REL; 403; FO; H; BE
3325	8/8/2016	LO_USA0013320	LO_USA0013347	14-4285D-8 INNO L'OREAL ADDITIVE v OLAPLEX w SEQ steps1 and 2	A; REL; 403; FO
3326	12/2/2015	LO_USA0013350	LO_USA0013359	14-4285D7R2 INNO L'OREAL ADDITIVE P4 C8 vs P4 C3	A; REL; 403; FO

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3327	8/24/2016	LO_USA0013360	LO_USA0013364	Email from K. Dreher to G. Davis dated 8-24-2016; subject "EV1608-0569 - Study request Sensorial"	A; REL; 403; FO; H; BE
3328	8/22/2015	LO_USA0013365	LO_USA0013387	14-4285C7S INNO L'OREAL Bonding Steps 1- 2	A; REL; 403; FO
3329	8/31/2016	LO_USA0013388	LO_USA0013389	14-4285F-4 INNO ADDITIVES BOOSTERS Diluted P4+ C8 vs diluted P12+C18 EV1608-0569 EDR	A; REL; 403; FO
3330	8/14/2015	LO_USA0013390	LO_USA0013391	14-4285C-9 INNO LOREAL ADDITIVE STEP 2 EDR	A; REL; 403; FO
3331	3/19/2015	LO_USA0013392	LO_USA0013397	14-4285P3S Proto 1 vs Proto 2	A; REL; 403; FO
3332	11/18/2016	LO_USA0013398	LO_USA0013401	14-4285H-1 INNO Bonding Back Bar Layer vs Rinse EV1610-0168 Expert Test Summary	A; REL; 403; FO
3333	8/5/2015	LO_USA0013402	LO_USA0013411	144285C8SR Olaplex Steps 1 and 2	A; REL; 403; FO
3334	9/27/2015	LO_USA0013412	LO_USA0013428	14-4285D-3 Inno SEQ with Bonding Additive Results	A; REL; 403; FO
3335	8/31/2015	LO_USA0013462	LO_USA0013464	144285C11S INNO L'OREAL ADDITIVE System Steps 1 and 2 PEC Test Summary	A; REL; 403; FO
3336	10/16/2015	LO_USA0013466	LO_USA0013468	144285C17S INNO L'OREAL ADDITIVE System Steps 1 and 2 PEC Test Summary	A; REL; 403; FO
3337	8/5/2015	LO_USA0013469	LO_USA0013478	14-4285C7SR INNO L'OREAL ADDITIVE step 1 and 2 Results	A; REL; 403; FO
3338	9/30/2015	LO_USA0013479	LO_USA0013482	144285C14R INNO L'OREAL ADDITIVE System Steps 1 and 2 - 3 Rechecks PEC Test Summary	A; REL; 403; FO
3339	3/28/2016	LO_USA0013483	LO_USA0013496	AR Bonding with LLC (Aptes) Results	A; REL; 403; FO
3340	8/21/2015	LO_USA0013500	LO_USA0013500	14-4285C12 INNO L'OREAL Bonding step 2	A; REL; 403; FO
3341	10/1/2015	LO_USA0013503	LO_USA0013504	14-4285E-5 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 in RKCF SEQ REDS BASE EDR	A; REL; 403; FO
3342	4/20/2016	LO_USA0013506	LO_USA0013522	14-4285G1T INNO Additives Boosters BONDING P16C8 vs P4C8 in Bleach EV1603-0746 Results	A; REL; 403; FO
3343	3/22/2016	LO_USA0013523	LO_USA0013523	14-4285G-1 INNO Additives Boosters BONDING P16C8 vs P4C8 in Bleach EV1603-0746	A; REL; 403; FO
3344	8/12/2015	LO_USA0013524	LO_USA0013524	144285C13S INNO LOREAL ADDITIVE STEPs 1 and 2 EDR	A; REL; 403; FO
3345	7/31/2015	LO_USA0013526	LO_USA0013526	144285C9SR INNO L'OREAL BONDING System Steps 1 and 2 EDR	A; REL; 403; FO
3346	4/1/2015	LO_USA0013527	LO_USA0013527	Additive Academy testing results	A; REL; 403; FO
3347	11/25/2015	LO_USA0013528	LO_USA0013528	14-4285E-9 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 any PREFERENCE Kit Base EDR	A; REL; 403; FO

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3348	4/20/2016	LO_USA0013529	LO_USA0013531	14-4285G-1 INNO Additives Boosters BONDING P16C8 vs P4C8 in Bleach EV1603-0746 Expert Hair Summary	A; REL; 403; FO
3349	8/22/2015	LO_USA0013532	LO_USA0013554	14-4285C7S INNO L'OREAL Bonding Steps 1- 2 RESULTS	A; REL; 403; FO
3350	10/14/2015	LO_USA0013555	LO_USA0013588	144285C16S System Additive Step 1 and Step 2 System RESULTS	A; REL; 403; FO
3351	8/22/2015	LO_USA0013589	LO_USA0013611	14-4285C7S INNO L'OREAL Bonding Steps 1- 2 RESULTS	A; REL; 403; FO
3352	6/4/2015	LO_USA0013612	LO_USA0013625	Document entitled Olivia Project dated June 4, 2015	Duplicate Exhibit
3353	10/30/2015	LO_USA0013627	LO_USA0013648	144285C12S INNO ADDITIVE System RESULTS	A; REL; 403; FO
3354	11/25/2015	LO_USA0013649	LO_USA0013650	14-4285E-8 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 any shade in RKEG EDR	A; REL; 403; FO
3355	8/31/2015	LO_USA0013651	LO_USA0013653	144285C12S INNO L'OREAL ADDITIVE steps 1 and 2 PEC Test Summary	A; REL; 403; FO
3356	10/14/2015	LO_USA0013660	LO_USA0013667	Document entitled "Additives-Boosters_ Alternative to OLAPLEX- Evaluation and characterization OLAPLEX against FIBERPLEX	A; REL; 403; FO
3357	10/12/2015	LO_USA0013671	LO_USA0013679	Document entitled "Additives-Boosters_ Alternative to OLAPLEX- Evaluation and characterization: P4 + C8 [1,9% maleic acid + MEA] specifications	A; REL; 403; FO
3358	9/10/2015	LO_USA0013680	LO_USA0013688	Document entitled "Additives-Boosters_ Alternative to OLAPLEX- Evaluation and characterization: P4 + C3 [1,9% maleic acid] specifications vs Bleach alone	A; REL; 403; FO
3359	7/16/2015	LO_USA0013689	LO_USA0013696	Document entitled "Bonding Additive and Post Treatment Evaluation"	A; REL; 403; FO
3360	8/13/2015	LO_USA0013697	LO_USA0013718	144285C12S INNO L'OREAL ADDITIVE step 1 and 2 RESULTS	A; REL; 403; FO
3361	2/6/2015	LO_USA0013719	LO_USA0013733	Post Color Treatments 2015 Questionnaire: ADDBASE15	A; REL; 403; FO
3362	4/6/2015	LO_USA0013734	LO_USA0013749	Additive + Post Color Treatments Results	A; REL; 403; FO
3363	8/11/2015	LO_USA0013750	LO_USA0013775	144285C10S INNO ADDITIVE System RESULTS	A; REL; 403; FO

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3364	10/14/2015	LO_USA0013776	LO_USA0013784	Document entitled "Additives-Boosters_ Alternative to OLAPLEX- Evaluation and characterization P4 + C8 [1,9% maleic acid + MEA] vs Olaplex	A; REL; 403; FO
3365	10/14/2015	LO_USA0013785	LO_USA0013796	144285C16R INNO L'OREAL ADDITIVE RESULTS	A; REL; 403; FO
3366	10/1/2015	LO_USA0013797	LO_USA0013797	14-4285E5S INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 in RKCF n SEQ REDS SHADE EDR	A; REL; 403; FO
3367	8/11/2015	LO_USA0013798	LO_USA0013798	144285C12S INNO L'OREAL ADDITIVE System Steps 1 and 2 EDR	A; REL; 403; FO
3368	7/8/2015	LO_USA0013799	LO_USA0013800	14-4285C2 INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3369	6/4/2015	LO_USA0013801	LO_USA0013814	Document entitled Olivia Project Formula Screening Results	Duplicate Exhibit
3370	7/16/2015	LO_USA0013815	LO_USA0013815	Hair Color Evaluation Form Project 14-4285 2S	A; REL; 403; FO
3371	3/18/2016	LO_USA0013827	LO_USA0013831	Email from G. David to K. Dreher et al. dated 3-18-2016; subject: RE:EV1603-0746 - Study Request Sensorial (1129634IN2, 37938 RDK, 37817 RDK)	A; REL; 403; FO; H; BE
3372	10/19/2015	LO_USA0013832	LO_USA0013839	14-4285E7S INNO L'OREAL ADDITIVE P4C8 and Olaplex vs no additive	A; REL; 403; FO
3373	8/1/2015	LO_USA0013840	LO_USA0013860	14-4285C8S INNO Bonding Additive Results	A; REL; 403; FO
3374	9/29/2015	LO_USA0013861	LO_USA0013862	14-4285E-3 INNO L'OREAL ADDITIVE SYSTEM steps 1 and 2 P4+C8 EDR	A; REL; 403; FO
3375	7/31/2015	LO_USA0013866	LO_USA0013867	144285C910S INNO L'OREAL BONDING System Steps 1 and 2 EDR	A; REL; 403; FO
3376	10/21/2015	LO_USA0013868	LO_USA0013861	Document entitled Bonding Performances	A; REL; 403; FO
3377	12/23/2015	LO_USA0013873	LO_USA0013875	14-4285E-4 INNO L'OREAL ADDITIVE SYSTEM steps 1 and 2 any Shade RKCF BASE PEC Test Summary	A; REL; 403; FO
3378	8/6/2015	LO_USA0013876	LO_USA0013898	144285C11S INNO L'OREAL ADDITIVE step 1 and 2 RESULT	A; REL; 403; FO
3379	11/23/2015	LO_USA0013899	LO_USA0013901	14-4285E-4 INNO L'OREAL ADDITIVE SYSTEM steps 1 and 2 any Shade RKCF BASE PEC Test Summary	A; REL; 403; FO
3380				Intentionally Left Blank	
3381	7/16/2015	LO_USA0013914	LO_USA0013915	14-4285C2S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3382	8/31/2015	LO_USA0013917	LO_USA0013919	14-4285C9S INNO L'OREAL ADDITIVE System Steps 1 and 2 PEC Test Summary	A; REL; 403; FO

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3383	10/30/2015	LO_USA0013920	LO_USA0013920	14-4285E7S INNO L'OREAL ADDITIVE Steps 1 and 2 w RKCF SEQ REDS shade EDR	A; REL; 403; FO
3384	6/29/2016	LO_USA0013921	LO_USA0013922	14-4285S13 P12 C8 in Cream Bleach vs Cream Bleach alone EDR	A; REL; 403; FO
3385	8/31/2015	LO_USA0013923	LO_USA0013925	144285C11S INNO L'OREAL ADDITIVE System Steps 1 and 2 PEC Test Summary	A; REL; 403; FO
3386	8/13/2015	LO_USA0013927	LO_USA0013948	144285C13S INNO L'OREAL ADDITIVE step 1 and 2 RESULTS	A; REL; 403; FO
3387	8/31/2015	LO_USA0013949	LO_USA0013951	144285C10S INNO L'OREAL ADDITIVE System Steps 1 and 2 PEC Test Summary	A; REL; 403; FO
3388	2/9/2015	LO_USA0013952	LO_USA0013979	Questionnaire: ADDBASE15, Post Color Treatments 2015	A; REL; 403; FO
3389	8/18/2015	LO_USA0013981	LO_USA0014001	Document entitled Additives-Boosters- Alternative to OLAPLEX -Evaluation and characterization: Olaplex specification, P4+C3 [1,9%] specifications, P4+C4 [1,9%maleic acid + 5%glcerine] specifications	A; REL; 403; FO
3390	7/16/2015	LO_USA0014003	LO_USA0014003	Image of head of hair	A; REL; 403; FO
3391				Intentionally Left Blank	
3392	8/12/2015	LO_USA0014014	LO_USA0014036	14-4285C-2 INNO L'OREAL ADDITIVE step 1 and 2 RESULTS	A; REL; 403; FO
3393	9/10/2015	LO_USA0014048	LO_USA0014069	144285C12S INNO ADDITIVE System RESULTS	A; REL; 403; FO
3394	9/29/2015	LO_USA0014070	LO_USA0014070	14-4285E3S INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 in Color SHADE EDR	A; REL; 403; FO
3395	9/24/2015	LO_USA0014071	LO_USA0014071	14-4285E-1 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 in Color EDR	A; REL; 403; FO
3396				Intentionally Left Blank	
3397	8/12/2015	LO_USA0014101	LO_USA0014124	144285C11S INNO ADDITIVE System RESULTS	A; REL; 403; FO
3398	8/12/2015	LO_USA0014131	LO_USA0014156	14-4285C2S INNO L'OREAL ADDITIVE step 1 and 2 RESULTS	A; REL; 403; FO
3399				Intentionally Left Blank	
3400	8/12/2015	LO_USA0014160	LO_USA0014183	144285C10S INNO ADDITIVE System RESULTS	A; REL; 403; FO
3401	4/20/2016	LO_USA0014184	LO_USA0014186	14-4285G1T INNO BONDING P16C8 vs P4C8 Treatment Expert Hair Summary	A; REL; 403; FO

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3402	7/31/2015	LO_USA0014189	LO_USA0014190	144285C10S INNO L'OREAL BONDING System Steps 1 and 2 EDR	A; REL; 403; FO
3403	10/16/2015	LO_USA0014191	LO_USA0014213	14-4285E-4 INNO L'OREAL ADDITIVE SYSTEM RESULTS	A; REL; 403; FO
3404	4/19/2016	LO_USA0014214	LO_USA0014235	14-4285G-1 INNO BONDING P16C8 vs P4C8 in Bleach EV1603-0746 9 results	A; REL; 403; FO
3405	12/4/2015	LO_USA0014236	LO_USA0014238	14-4285E-8 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 any shade in RKCF PEC Test Summary	A; REL; 403; FO
3406	6/23/2015	LO_USA0014248	LO_USA0014251	Document entitled Product Performance Evaluation - Bonding Taskforce US/FR Headtrials	A; REL; 403; FO
3407	9/29/2015	LO_USA0014257	LO_USA0014258	14-4285E4 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 Base EDR	A; REL; 403; FO
3408	10/5/2015	LO_USA0014259	LO_USA0014260	14-4285E-6 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 in RKCF SEQ REDS BASE EDR	A; REL; 403; FO
3409	4/4/2016	LO_USA0014261	LO_USA0014279	14-4285G-1 INNO BONDING P16C8 vs P4C8 in Bleach EV1603-0746 RESULT	A; REL; 403; FO
3410	12/3/2015	LO_USA0014280	LO_USA0014303	14-4285E-8 INNO L'OREAL ADDITIVE SYSTEM RESULT	A; REL; 403; FO
3411	9/29/2015	LO_USA0014306	LO_USA0014306	14-4285E4S INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 in Color SHADE EDR	A; REL; 403; FO
3412	9/28/2015	LO_USA0014307	LO_USA0014308	14-4285E-1 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 in RKCF SEQ EDR	A; REL; 403; FO
3413	10/12/2015	LO_USA0014309	LO_USA0014317	Document entitled Additives-Boosters- Alternative to OLAPLEX - Evaluation and characterization P9+C8 specifications	A; REL; 403; FO
3414	8/11/2015	LO_USA0014319	LO_USA0014319	144285C12R INNO L'OREAL ADDITIVE System Steps 1 and 2 - 3 RCKS EDR	A; REL; 403; FO
3415	10/8/2015	LO_USA0014320	LO_USA0014321	14-4285E-4 INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 any shade RKCF BASE EDR	A; REL; 403; FO
3416	10/5/2015	LO_USA0014322	LO_USA0014323	14-4285E6S INNO L'OREAL ADDITIVE SYSTEM Steps 1 and 2 in RKCF n SEQ REDS SHADE EDR	A; REL; 403; FO
3417	8/25/2015	LO_USA0014337	LO_USA0014357	Document entitled Additives-Boosters- Alternative to OLAPLEX -Evaluation and characterization: Olaplex specification, P4+C3 [1,9%] specifications, P4+C4 [1,9%maleic acid + 5%glcerine] specifications	A; REL; 403; FO

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3418	8/12/2015	LO_USA0014358	LO_USA0014359	144285C12S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3419	10/21/2015	LO_USA0014362	LO_USA0014365	Document - Bonding Performances	A; REL; 403; FO
3420	8/5/2015	LO_USA0014366	LO_USA0014388	14-4285C8S INNO L'OREAL Bonding Steps 1- 2 RESULTS	A; REL; 403; FO
3421	8/12/2015	LO_USA0014389	LO_USA0014406	14-4285C9S INNO L'OREAL ADDITIVE step 1 and 2 RESULTS	A; REL; 403; FO
3422	12/4/2015	LO_USA0014409	LO_USA0014432	14-4285E-9 INNO L'OREAL ADDITIVE SYSTEM RESULTS	A; REL; 403; FO
3423	8/31/2015	LO_USA0014443	LO_USA0014444	14-4285C-2 INNO L'OREAL ADDITIVE steps 1 and 2 PEC Test Summary	A; REL; 403; FO
3424	7/9/2015	LO_USA0014445	LO_USA0014462	14-4285C-1 INNO L'OREAL ADDITIVE RESULTS	A; REL; 403; FO
3425	4/21/2016	LO_USA0014464	LO_USA0014466	Document- Bonding - P4 / P16 / P12	A; REL; 403; FO
3426	7/16/2015	LO_USA0014467	LO_USA0014494	14-4285A16 INNO L'OREAL ADDITIVE RESULTS	A; REL; 403; FO
3427	8/5/2015	LO_USA0014499	LO_USA0014516	144285C10S INNO L'OREAL ADDITIVE step 1 and 2 RESULTS	A; REL; 403; FO
3428	5/28/2015	LO_USA0014517	LO_USA0014544	Questionnaire: ADDBASE15, Post Color Treatments 2015	A; REL; 403; FO
3429	7/28/2015	LO_USA0014545	LO_USA0014546	14-4285C9S INNO LOREAL ADDITIVE STEP 1 and 2 EDR	A; REL; 403; FO
3430	6/3/2016	LO_USA0014694	LO_USA0014701	HCS16-030 Processing Time Bonding vs Olaplex	A; REL; 403; FO
3431	5/25/2016	LO_USA0018074	LO_USA0018075	Microbiological Study Results MU1604-0279	A; REL; 403; FO
3432				Intentionally Left Blank	
3433	7/13/2016	LO_USA0018096	LO_USA0018097	Email from T. Carothers to D. Velkov dated 7-13-2016; subject: RE: Ad-Hoc Survey for Bonding Professional Quanti	A; REL; 403; FO
3434	7/7/2015	LO_USA0018098	LO_USA0018104	SDS- Non-Hazardous Cosmetic/Personal Care Products	A; REL; 403; FO
3435	8/24/2018	LO_USA0018105	LO_USA0018106	Microbiological Study Results MU1604-0216	A; REL; 403; FO
3436	4/18/2016	LO_USA0018107	LO_USA0018107	Email from J. Pannullo to R. Iancau dated 4-18-2016; subject: FW Purchase order 4200385583 approved	A; REL; 403; FO
3437	8/24/2018	LO_USA0018108	LO_USA0018109	Microbiological Study Results MU1604-0218	A; REL; 403; FO
3438	12/9/2015	LO_USA0018110	LO_USA0018117	SDS Performance Additive P4 + AHA	A; REL; 403; FO

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3439	4/8/2016	LO_USA0018130	LO_USA0018131	Email from D. Ferreira to M. Nashed dated 4-8-2016; subject: DIALOG: DC1603-1803 Response for 1129686MX2-MATRIX - 2015-4558/B - RM or FP Safety approvale (VISA) for efficacy tests in humans	A; REL; 403; FO; H; BE
3440	12/22/2014	LO_USA0018404	LO_USA0018433	L'Oreal Absolut Repair Regimen, Study ETU-FT-14-001, Orchestrat # 2009-6904/A	A; REL; 403; FO
3441	8/24/2018	LO_USA0018468	LO_USA0018469	Microbiological Study Result MU1604-0217 (Formula no. 1129686MX2)	A; REL; 403; FO
3442	10/28/2015	LO_USA0018634	LO_USA0018635	Microbiological Study Results (Formula No. 1129634IN1)	A; REL; 403; FO
3443	12/30/2015	LO_USA0018636	LO_USA0018644	Test Report - Sensory Properties of P1 Additive in Chromatics vs. Chromatics Alone (Study #COS-CAP-2015-0787)	A; REL; 403; FO
3444	10/6/2015	LO_USA0018645	LO_USA0018646	Microbiological Study Results (Formula No. 37477 RDK)	A; REL; 403; FO
3445	12/15/2015	LO_USA0018659	LO_USA0018660	Microbiological Study Results (Formula No. 1129634IN2)	A; REL; 403; FO
3446	9/8/2016	LO_USA0018685	LO_USA0018700	Bonding for Hair Color (Project No. TF16-005)	A; REL; 403; FO
3447	4/16/2015	LO_USA0018703	LO_USA0018704	Microbiological Study Results (Formula No. 37149 RDK)	A; REL; 403; FO
3448	6/22/2015	LO_USA0018734	LO_USA0018734	Analytical Request - AU1503-0157, Requested 3-27-2015, Product/RN Name: Glycerin Additive for Bleach	A; REL; 403; FO
3449	8/23/2017	LO_USA0018799	LO_USA0018801	Sodium Relaxer + Bonding Performance Synthesis	A; REL; 403; FO
3450	9/23/2016	LO_USA0018802	LO_USA0018810	Sensory Study Report - Solon Study - Sensory Properties of P12 Additive in Color Fusion vs. Color Fusion Alone	A; REL; 403; FO
3451	2/3/2017	LO_USA0018811	LO_USA0018820	Evaluation of the impact of P12/C8 on fiber integrity in a bleach application using tensile test	A; REL; 403; FO
3452	8/26/2015	LO_USA0018821	LO_USA0018826	Test Report - Sensory Properties of Bleach Powder with Additive 37326 RFK Compared to Bleach Alone (Study #COS-CAP-2015-0573)	A; REL; 403; FO
3453	4/29/2015	LO_USA0018883	LO_USA0018884	Microbiological Study Results (Formula No. 37149 RDK)	A; REL; 403; FO

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3454	3/21/2016	LO_USA0018901	LO_USA0018909	Test Report - Sensory Properties of P4 in Blonde Glam Cream Bleach vs. Blonde Glam Cream Bleach Alone (Study #COS-CAP-2016-0237)	A; REL; 403; FO
3455	5/5/2015	LO_USA0018966	LO_USA0018977	Report A comparison of anti-breakage properties of bleach dated 5-5-2015	A; REL; 403; FO
3456	3/21/2016	LO_USA0019047	LO_USA0019055	Test Report - Sensory Properties of Bonding Additive P4 in Color Gels vs. Color Gels Alone (Study #COS-CAP-2016-0235)	A; REL; 403; FO
3457	6/2/2016	LO_USA0019074	LO_USA0019082	Test Report - Sensory Properties of P4 Additive 37817 RDK in Masters Results vs. Masters Results Alone (Study #COS-CAP-2016-0415)	A; REL; 403; FO
3458	5/5/2015	LO_USA0019098	LO_USA0019009	Report A comparison of anti-breakage properties of bleach dated 5-5-2015	A; REL; 403; FO
3459	6/23/2017	LO_USA0019110	LO_USA0019114	Inno Bonding 2.0- Relaxers: Relaxer + Bonding Treatment Modified P12/C8 versus Relaxer + Bonding P4/C8	A; REL; 403; FO
3460	3/14/2016	LO_USA0019151	LO_USA0019159	Test Report - Sensory Properties of Bonding Additive P4 in Color Fusion vs. Color Fusion Alone (Study #COS-CAP-2016-0043)	A; REL; 403; FO
3461	12/29/2015	LO_USA0019178	LO_USA0019179	Microbiological Study Results (Formula No. 37477 RDK)	A; REL; 403; FO
3462	12/29/2015	LO_USA0019218	LO_USA0019219	Microbiological Study Results (Formula No. 37462 RDK)	A; REL; 403; FO
3463	2/22/2016	LO_USA0019298	LO_USA0019321	Relaxer with Bonding Additive and Treatment (Formula #s - Additive: 37817 RDK (P4) - Treatment: 1129634IN2 (C8))	A; REL; 403; FO
3464	4/30/2015	LO_USA0019322	LO_USA0019333	Report of Fiber Integrity of Tresses treated with bleach and bleach plus additives dated 4-30-2015	A; REL; 403; FO
3465	4/22/2015	LO_USA0019345	LO_USA0019346	Microbiological Study Results (Formula No. 37149 RDK)	A; REL; 403; FO
3466	10/27/2015	LO_USA0019430	LO_USA0019438	Test Report - Sensory Properties of Bleach with Performance Additive P4 vs. Bleach Alone (Study #COS-CAP-2015-0594)	A; REL; 403; FO

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3467	6/18/2015	LO_USA0019466	LO_USA0019477	Test Report - Sensory Properties of Flash Lift Powder Compared to Flash Lift with Booster (Study #COS-CAP-2015-0460)	A; REL; 403; FO
3468	5/16/2016	LO_USA0019516	LO_USA0019524	Test Report - Sensory Properties of P4 Additive 37817 RDK in Majirel vs. Majirel Alone (Study #COS-CAP-2016-0312)	A; REL; 403; FO
3469	12/7/2015	LO_USA0019612	LO_USA0019637	Bonding Additive w/Treatment (Formula #s - Additive: 37567 RDK (P12) - Treatment: 1129634IN2 (C8))	A; REL; 403; FO
3470	7/14/2015	LO_USA0019656	LO_USA0019686	Bonding Additive w/Treatment (Formula #s - Additive 37462 RDK - Treatment: 112963IN) (Study #: ETU-CE-15-004; Orchestra #: 2014-4285/A)	A; REL; 403; FO
3471				Intentionally Left Blank	
3472	8/13/2018	LO_USA0019706	LO_USA0019725	Report Evaluation of Fiber Integrity of swatches treated with Eagle highlift base plus bonding actives versus SOCOLOR	A; REL; 403; FO
3473				Intentionally Left Blank	
3474	8/10/2017	LO_USA0019731	LO_USA0019732	Sodium Relaxer + Bonding + In-Shower Performance Synthesis	A; REL; 403; FO
3475				Intentionally Left Blank	
3476	6/18/2015	LO_USA0019802	LO_USA0019813	Sensory Properties of Flash Lift Powder Compared to Flash Lift with Booster (Test date 3-31-2015 to 4-17-2015)	A; REL; 403; FO
3477	12/18/2015	LO_USA0019851	LO_USA0019859	Test Report - Sensory Properties of P4 Additive in Color Fusion Extra Lift vs Color Fusion Extra Lift Alone (Test date 9-29-2015 to 10-1-2015)	A; REL; 403; FO
3478	3/31/2016	LO_USA0019885	LO_USA0019893	Test Report - Sensory Properties of P13 Additive in Bleach Powder vs. Bleach Powder Alone (Study #COS-CAP-2016-0242)	A; REL; 403; FO
3479	3/21/2016	LO_USA0019899	LO_USA0019907	Test Report - Sensory Properties of P4 in Blonde Glam Cream Bleach vs. Blonde Glam Cream Bleach Alone (Study #COS-CAP-2016-0237)	A; REL; 403; FO

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3480	4/7/2016	LO_USA0019919	LO_USA0019927	Test Report Sensory Properties of P12 in Bleach Powder vs. Bleach Powder Alone (Study #COS-CAP-2016-0283)	A; REL; 403; FO
3481	3/18/2016	LO_USA0019946	LO_USA0019957	The evaluation of the impact of the new P4+C8 system on the hair's mechanical properties when introduced during a bleach application	A; REL; 403; FO
3482	9/18/2015	LO_USA0019970	LO_USA0019997	Bonding Additive w/Treatment (Formula #: Additive: 37462 RDK; Treatment: 1129634IN3; Study #: PPE-CE-15-003; Orchestra #: 2014-4285/A)	A; REL; 403; FO
3483	11/4/2016	LO_USA0019998	LO_USA0020006	Sensory Properties of P12 Additive in Blonde Dimensions vs. Blonde Dimensions Alone (Study #COS-CAP-2016-0984)	A; REL; 403; FO
3484	5/16/2016	LO_USA0020103	LO_USA0020111	Test Report - Sensory Properties of P4 Additive 37817 RDK in Majirel vs. Majirel Alone (Study #COS-CAP-2016-0312)	A; REL; 403; FO
3485	3/21/2016	LO_USA0020112	LO_USA0020120	Test Report - Sensory Properties of Bonding Additive P4 in Color Gels vs. Color Gels Alone (Study #COS-CAP-2016-0235)	A; REL; 403; FO
3486	8/16/2018	LO_USA0020125	LO_USA0020141	Evaluation of Fiber Integrity of swatches treated with Schwartzkopf BlondeMe 9 level bleach plus P4 bonding additive versus Fiberplex	A; REL; 403; FO
3487	7/7/2016	LO_USA0020142	LO_USA0020150	Test Report - Sensory Properties of P4 Additive 90285 MX in Socolor vs. Socolor Alone (Study #COS-CAP-2016-0416)	A; REL; 403; FO
3488	1/11/2016	LO_USA0020153	LO_USA0020154	Microbiological Study Results (Formula No. 1129634IN8)	A; REL; 403; FO
3489	5/27/2015	LO_USA0020200	LO_USA0020218	Evaluation of fiber integrity of tresses treated with bleach alone vs. those with bleach plus additives	A; REL; 403; FO
3490	10/23/2015	LO_USA0020240	LO_USA0020241	Microbiological Study Results (Formula No. 37462 RDK)	A; REL; 403; FO
3491	3/15/2016	LO_USA0020242	LO_USA0020253	The evaluation of the impact of the new P4+C8 system on the hairs' mechanical properties when introduced during a bleach application	A; REL; 403; FO

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3492	1/8/2016	LO_USA0020262	LO_USA0020270	Test Report - Sensory Properties of Bonding Additive P4 in Shades EQ vs. Shades EQ Alone (Study #COS-CAP-2016-0039)	A; REL; 403; FO
3493	12/31/2015	LO_USA0020303	LO_USA0020311	Test Report - Sensory Properties of P9 Additive in Flash Lift vs. Flash Lift Alone (Study #COS-CAP-2015-0894	A; REL; 403; FO
3494				Intentionally Left Blank	
3495	11/3/2015	LO_USA0020322	LO_USA0020323	Microbiological Study Results (Formula No. 1129634IN8)	A; REL; 403; FO
3496	5/6/2015	LO_USA0020324	LO_USA0020357	Redken Additive + Opale 32 Treatment (Formula #s: Additive: 37149 RDK; Treatment: 1129601 RK; Study #: ETU-CE-15-001; Orchestra #: 2015-1883/A)	A; REL; 403; FO
3497				Intentionally Left Blank	
3498	12/18/2015	LO_USA0020505	LO_USA0020513	Test Report - Sensory Properties of P4 Additive in Color Fusion Extra Lift vs. Color Fusion Extra Lift Alone (Study #COS-CAP-2015-0890)	A; REL; 403; FO
3499				Intentionally Left Blank	
3500	2/16/2016	LO_USA0020651	LO_USA0020659	Test Report - Sensory Properties of Bonding Additive P4 in Chromatics vs. Chromatics Alone (Study #COS-CAP-2016-0040)	A; REL; 403; FO
3501	3/14/2016	LO_USA0020668	LO_USA0020676	Test Report - Sensory Properties of Bonding Additive P4 in Color Fusion vs. Color Fusion Alone (Study #COS-CAP-2016-0043)	A; REL; 403; FO
3502	1/8/2016	LO_USA0020731	LO_USA0020739	Test Report - Sensory Properties of Bonding Additive P4 in Shades EQ vs. Shades EQ Alone (Study #COS-CAP-2016-0039)	A; REL; 403; FO
3503	4/30/2015	LO_USA0020740	LO_USA0020751	Evaluation of fiber integrity of tresses treated with bleach along vs. those with bleach plus additives using single fiber tensile measurements	A; REL; 403; FO
3504	2/16/2016	LO_USA0020752	LO_USA0020760	Product Performance Evaluation (PPE) Test Report Sensory Properties of Bonding Additive P4 in Chromatics vs. Chromatics Alone (Study # COS-CAP-2016-0040)	A; REL; 403; FO

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3505	9/14/2016	LO_USA0020777	LO_USA0020783	Product Performance Evaluation - Evaluation of the Fiber Integrity Treated with Perm Products by Means of Tensile Test Report	A; REL; 403; FO
3506	10/10/2016	LO_USA0020786	LO_USA0020811	Bonding for Relaxers [PPE: [Expert Science] Professional Bonding Task Force Project N°TF16-007 Formulas #s Additive: 1200591 (P4) Treatment: 1129686MX2 (C8)]	A; REL; 403; FO
3507	6/2/2016	LO_USA0020815	LO_USA0020823	Product Performance Evaluation (PPE) Test Report Sensory Properties of P4 Additive 37817 RDK in Masters Results vs. Masters Results Alone (Study # COS-CAP-2016-0415)	A; REL; 403; FO
3508	6/13/2016	LO_USA0020867	LO_USA0020867	Stability Certificate (Formula No. 1200591)	A; REL; 403; FO
3509	10/6/2015	LO_USA0020907	LO_USA0020908	Microbiological Study Results (Formula No. 1129634IN2)	A; REL; 403; FO
3510	9/28/2015	LO_USA0020957	LO_USA0020983	Bonding Additive w/ Treatment (Formula #'s: Additive: 37462 RDK Treatment: 1129634IN1/1129634IN5 Study #: ETU-PPE-15-006 Orchestra #: 2014-4285/A)	A; REL; 403; FO
3511				Intentionally Left Blank	N/A
3512	11/3/2015	LO_USA0021459	LO_USA0021655	Lab Notebook L11580 (Dreher 1)	H; FO; 403
3513	8/3/2015	LO_USA0021656	LO_USA0021847	Lab Notebook L11533 (Hamilton 3)	H; FO; 403
3514	1/25/2017	LO_USA0021848	LO_USA0021906	Lab Notebook L11794 (Kluck)	H; FO
3515	3/16/2016	LO_USA0021907	LO_USA0021977	Lab Notebook L11639 (Darakjy 3)	H; FO
3516	7/27/2015	LO_USA0021978	LO_USA0022154	Lab Notebook L11521 (Riva Manocha 1)	H; FO
3517	9/30/2015	LO_USA0022155	LO_USA0022326	Lab Notebook L11559 (Kluck)	H; FO
3518	1/29/2015	LO_USA0022420	LO_USA0022591	Lab Notebook L11411 (Kluck)	H; FO
3519	10/24/2016	LO_USA0022592	LO_USA0022786	Lab Notebook L11751 (Dreher 6)	H; FO; 403
3520	2/25/2016	LO_USA0022787	LO_USA0022886	Lab Notebook L11630 (Riva Manocha 2)	H; FO
3521	9/2/2016	LO_USA0022887	LO_USA0023080	Lab Notebook L11734 (Dreher 5)	H; FO; 403
3522	7/25/2016	LO_USA0023081	LO_USA0023267	Lab Notebook L11722 (Dreher 4)	H; FO; 403
3523	3/11/2016	LO_USA0023268	LO_USA0023453	Lab Notebook L11638 (Dreher 3)	H; FO; 403
3524	7/27/2015	LO_USA0023454	LO_USA0023639	Lab Notebook L11520 (Darakjy 1)	H; FO
3525	1/29/2016	LO_USA0023640	LO_USA0023824	Lab Notebook L11616 (Dreher 2)	H; FO; 403

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3526	7/24/2015	LO_USA0023987	LO_USA0023992	Email from R. Dolden to H. Kunetz dated 7-24-2015; subject: FW L'Oreal is against Olaplex - serious (local) issue	No Objection
3527	5/7/2015	LO_USA0024119	LO_USA0024120	Email chain ending with email from R. Dolden to D. Allard, dated May 7, 2015, attaching Olivia Request List - pre due diligence	No Objection
3528	6/10/2015	LO_USA0026509	LO_USA0026517	Document Entitled "Olivia US Sales Assumptions"	H; FO; CP
3529	5/26/2015	LO_USA0026518	LO_USA0026520	Email chain ending with email from R. Dolden to D. Staatz dated May 26, 2015; Subject: FW: Olivia - Confidential	H; FO; CP
3530	4/15/2015	LO_USA0026521	LO_USA0026522	Email chain ending with email from R. Dolden to H. Kunetz, N. Hieronimus, A. Verhulst-Santos, A. Evrard, V. Pivet, F. Roze, A. Pagliano, P. Parenty, and B. Fontaine, dated April 15, 2015, Subject: Olivia Owner's Intention/Structure - Confidential	No Objection
3531	4/28/2015	LO_USA0026523	LO_USA0026527	Document Entitled "Olivia R&I Synthesis - PreDD"	H; FO; CP
3532	6/1/2015	LO_USA0026554	LO_USA0026555	Email chain ending with email from R. Dolden to H. Kunetz dated June 1, 2015; Subject: FW: Project Olivia	H; FO
3533	5/1/2015	LO_USA0026556	LO_USA0026561	Email chain ending with email from R. Dolden to A. Kerschner, M. Fluck, and D. Morgan, dated May 1, 2015, Subject: FW: Pre DD R&I assessment check, attaching OLIVIA RI Review pre DD April 29 v3	No Objection
3534	5/1/2015	LO_USA0026562	LO_USA0026568	Email chain ending with email from R. Dolden to S. Habif, H. Kunetz, J. Pahin, H. Toutain, J. Ascione, F. Cervantes, C. Goget, and Y. Land, dated May 1, 2015, Subject: FW: Pre DD R&I assessment check, attaching OLIVIA RI Review pre DD April 29 v3	H; FO

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3535	7/1/2015	LO_USA0026569	LO_USA0026569	Email chain ending with email from R. Dolden to I. Poidevin, K. Balleret, D. Nelly, S. Beache-Terrade, N. Gerault, M. Rigaud, V. Laloy, J. Lili, A. Levon Dean, C. Duvert, J. Boschet, A. Evrard, A. Theret, A. De La Sauzay, L. Boussaa, F. Roze, and C. Duvert dated July 1, 2015, Subject: FW: presentations for hte OLIVIA Meeting - ALERT	H; FO; CP
3536	7/1/2015	LO_USA0026646	LO_USA0026670	Document Entitled: "Project Olivia: L'Oréal"	H; FO
3537	4/29/2015	LO_USA0026671	LO_USA0026671	Email chain ending with email from R. Dolden to D. Allard dated April 29, 2015, Subject: FW: Project Olivia - Confidential	H; FO
3538	7/1/2015	LO_USA0026672	LO_USA0026696	Document Entitled: "Project Olivia: L'Oréal"	H; FO; 403 (cumulative, see, e.g., TX 3536)
3539	7/1/2015	LO_USA0026697	LO_USA0026697	Document Entitled: "Comparative Value Creation"	H; FO; CP
3540	4/17/2015	LO_USA0026698	LO_USA0026699	Email chain ending with email from R. Dolden to R. Dolden, dated April 17, 2015, Subject: FW: Project Olivia - Our Call Today	H; FO
3541	7/1/2015	LO_USA0026725	LO_USA0026725	Document Entitled: "Comparative Value Creation"	H; FO; CP; 403 (cumulative, see, e.g., TX 3539)
3542	5/26/2015	LO_USA0026726	LO_USA0026727	Email chain ending with email from R. Dolden to D. Staats dated May 26, 2015, Subject: FW: Project Olivia - Meeting with Owner Scientist - Strictly Confidential	No Objection
3543	5/22/2015	LO_USA0026728	LO_USA0026732	Document Entitled: "Project Olivia, Detailed Notes of May 19 Meeting - Strictly Confidential"	403 (cumulative)
3544	5/13/2015	LO_USA0026733	LO_USA0026735	Email chain ending with email from R. Dolden to D. Allard, dated May 13, 2015, Subject: FW: Project Olivia Next Week	H; FO

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3545	9/2/2015	LO_USA0026736	LO_USA0026737	Document Entitled: "Project Olivia, Notes of September 1 Meeting with Dean Christal, Confidential"	403 (cumulative)
3546	4/30/2015	LO_USA0026738 LO_USA002674001	LO_USA0026740 LO_USA002670007	Email chain ending with email from R. Dolden to H. Kunetz, F. Roze, and M. Gringauz, dated April 30, 2015, Subject: FW: Project Olivia Status -- Confidential, attaching Olivia avril 2015 mod2	H; FO
3547	7/1/2015	LO_USA0026766	LO_USA0026766	Document Entitled: "Comparative Value Creation"	H; FO; CP; 403 (cumulative, see, e.g., TX 3539 and TX 3541)
3548	6/3/2015	LO_USA0026797	LO_USA0026798	Email from R. Dolden to H. Kunetz, D. Morgan, M. Flick, and A. Kerschner, dated June 3, 2015, Subject: FW: US Sales Build Page from BP, attaching Olivia pre-Due Diligence BP VO-8-6 US Sales Build Page	H; FO; CP
3549	6/26/2015	LO_USA0026799	LO_USA0026800	Email chain ending with email from R. Dolden to A. Pagliano and F. Roze, dated June 26, 2015, Subject: FWD: Olivia --- Challenge to the Brand	H; FO
3550	6/13/2015	LO_USA0026801	LO_USA0026802	Email chain ending with email from R. Dolden to H. Kunetz dated June 13, 2015, Subject: FWD: Olivia	No Objection
3551	7/1/2015	LO_USA0026807	LO_USA0026822	Email chain ending with email from R. Dolden to H. Kunetz, dated July 1, 2015, Subject: FWD: Olivia scenarios Buy or Make.xlsx, attaching Olivia scenarios Buy or Make	No Objection
3552	4/16/2015	LO_USA0026850	LO_USA0026852	Email chain ending with email from R. Dolden to S. Habif dated April 16, 2015, Subject: FWD: Olivia Owner's Intention/Structure - Confidential	H; FO
3553	9/2/2015	LO_USA0026853	LO_USA0026854	Email chain ending with email from R. Dolden to R. Dolden dated September 2, 2015, Subject: FWD: Project Olivia --- Notes of Yesterday's Meeting with Dean Christal --- confidential	H; FO

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3554	5/23/2015	LO_USA0026855	LO_USA0026856	Email chain ending with email from R. Dolden to J. Agon dated May 23, 2015, Subject: FWD: Project Olivia - Meeting with Owner/Scientist - Strictly Confidential	No Objection
3555	5/22/2015	LO_USA0026857	LO_USA0026861	Document Entitled: "Project Olivia, Detailed Notes of May 19 Meeting - Strictly Confidential"	No Objection
3556	5/21/2015	LO_USA0026862	LO_USA0026864	Document Entitled: "Olaplex, LLC, Profit & Loss, January through December 2014"	No Objection
3557	5/21/2015	LO_USA0026865	LO_USA0026876	Document Entitled: "Forecast - Olaplex International Sales - Per Month / Per Customer / Per Region"	No Objection
3558	5/21/2015	LO_USA0026877	LO_USA0026878	Chart listing Item No., Description, Quantity, and Cost of Olaplex Products	No Objection
3559	6/13/2015	LO_USA0026879	LO_USA0026880	Email chain ending with email from R. Dolden to A. Kerschner dated June 13, 2015, Subject: FWD: US Olivia	H; FO
3560	8/20/2015	LO_USA0026881	LO_USA0026883	Email chain ending with email from R. Dolden to D. Christal dated Aug. 20, 2015, Subject: Meeting Dates	No Objection
3561	6/8/2015	LO_USA0026889	LO_USA0026889	Email from R. Dolden to V. Pivet, H. Kunetz, S. Habif, F. Cervantes, D. Allard, J. Ascione, A. Verhulst-Santos, J. Chabot, F. Roze, D. Morgan, M. Fluck, and A. Kerschner, dated June 8, 2015, attaching Hair Protecting Additives Report and Hair Protecting Additives	H; FO; CP
3562	6/5/2015	LO_USA0026890	LO_USA0026933	Document Entitled: "Trendvision Reports: Overview of Hair Protecting Additives through May 2015"	H; FO
3563	4/8/2015	LO_USA0026937	LO_USA0026949	Email chain ending with email from R. Dolden to F. Roze and H. Kunetz dated April 8, 2015, Subject: Olaplex (Project Olivia), attaching draft Olivia V1.pptx	H; FO
3565	5/21/2015	LO_USA0028183	LO_USA0028198	Email chain ending with email from K. O'Rourke to H. Kunetz, M. Fluck, and D. Morgan, dated May 21, 2015, Subject: Olivia - Documents for 11 am meeting, attaching 20150521110213, 201521110319, and 201505221110248	No Objection

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3566	5/21/2015	LO_USA0028187	LO_USA0028198	Document Entitled: "Forecast - Olaplex International Sales - Per Month / Per Customer / Per Region"	No Objection
3567	5/16/2015	LO_USA0028199	LO_USA0028199	Email from R. Dolden to H. Kunetz dated May 16, 2015, Subject: Olivia BSG	H; FO
3568	5/5/2015	LO_USA0028205	LO_USA0028207	Email chain ending with email from R. Dolden to V. Pivet, J. Chabot, D. Morget, P. Parenty, H. Kunetz, M. Fluck, A. Kerschner dated May 5, 2015, Subject: Olivia Project Timing	H; FO
3569	4/15/2015	LO_USA0028216	LO_USA0028217	Email chain ending with email from R. Dolden to H. Kunetz dated April 15, 2015, Subject: Olivia Owner's Intention/Structure - Confidential	No Objection
3570	5/15/2015	LO_USA0028224	LO_USA0028224	Email from R. Dolden to S. Habif, J. Ascione, F. Cervantes, D. Allard, H. Kunetz, and V. Pivet, dated May 15, 2015, Subject: Project Olivia	H; FO
3571	5/12/2015	LO_USA0028226	LO_USA0028226	Email from R. Dolden to H. Kunetz dated May 12, 2015, Subject: Project Olivia	No Objection
3572	4/29/2015	LO_USA0028227	LO_USA0028227	Email from R. Dolden to S. Habif, and M. Gringauz, dated April 29, 2015, Subject: Project Olivia	H; FO
3573	4/28/2015	LO_USA0028229	LO_USA0028229	Email from R. Dolden to S. Habif, H. Kunetz, A. Verhulst-Santos, and F. Roze, dated April 28, 2015, Subject: Project Olivia	H; FO
3574	4/18/2015	LO_USA0028230	LO_USA0028230	Email from R. Dolden to P. Sharnsky dated April 18, 2015, Subject: Project Olivia	No Objection
3575	5/4/2015	LO_USA0028232	LO_USA0028232	Email from R. Dolden to D. Allard, F. Roze, S. Habif, F. Cervantes, H. Kunetz, and M. Gringauz, dated May 4, 2015, Subject: Project Olivia	H; FO
3576	5/12/2015	LO_USA0028259	LO_USA0028259	Email from R. Dolden to P. Sharnsky dated May 12, 2015, Subject: Project Olivia - Confidential	No Objection
3577	4/29/2015	LO_USA0028263	LO_USA0028263	Email from R. Dolden to D. Allard, S. Habif, and M. Gringauz, dated April 29, 2015, Subject: Project Olivia - Confidential	H; FO
3578	4/22/2015	LO_USA0028274	LO_USA0028274	Email from R. Dolden to C. Dumais, P. parenty, H. Kunetz dated April 22, 2015, Subject: Project Olivia - Confidential	H; FO

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
3579	5/5/2015	LO_USA0028279	LO_USA0028279	Email from R. Dolden to R. Dolden dated May 5, 2015, Subject: Project Olivia - Notes on R&I Meeting	No Objection
3580	9/2/2015	LO_USA0028280	LO_USA0028281	Email from R. Dolden to R. Dolden dated Sept. 2, 2015, Subject: Project Olivia -- Notes of September 1 Meeting with Dean Christal --- Confidential	H; FO
3581	9/2/2015	LO_USA0028282	LO_USA0028282	Email from R. Dolden to R. Dolden dated Sept. 2, 2015, Subject: Project Olivia -- Notes of September 1 Meeting with Dean Christal --- Confidential	H; FO
3582	6/9/2015	LO_USA0028307	LO_USA0028307	Email from R. Dolden to J. Ascione, D. Allard, S. Habif, V. Pivet, F. Roze, H. Kunetz, and F. Cervantes, dated June 9, 2015, Subject: Project Olivia Patent	No Objection
3583	5/8/2015	LO_USA0028310	LO_USA0028310	Email from R. Dolden to D. Allard dated May 8, 2015, Subject: Project Olivia Next Week	H; FO
3584	4/18/2015	LO_USA0028312	LO_USA0028312	Email from R. Dolden to N. Hieronimus, A. Verhulst-Santos, F. Roze, C. Mulliez, L. Attal, J. Ascione, A. Evrard, A. Pagliano, M. Dubrule, and M. Gringauz, dated April 18, 2015, Subject: Project Olivia Status --- Confidential	H; FO
3585	9/2/2015	LO_USA0028314	LO_USA0028315	Document Entitled: "Project Olivia, Notes of September 1 Meeting with Dean Christal, Confidential"	403 (cumulative)
3586	6/17/2015	LO_USA0028316	LO_USA0028316	Email from R. Dolden to L. Schmitt dated June 17, 2015, Subject: Project Olivia Unbudgeted Opportunities, attaching Olivia Opportunities Risks.pptx	H; FO; CP
3587	6/17/2015	LO_USA0028317	LO_USA0028318	Document Entitled: "Olivia - Opportunities & Risks Not Reflected in BP"	H; FO; CP
3588	8/10/2015	LO_USA0028319	LO_USA0028319	Email chain ending with email from R. Dolden to D. Christal dated Aug. 10, 2015, Subject: RE: August 20?	H; FO; 403 (cumulative)
3589	8/10/2015	LO_USA0028321	LO_USA0028323	Email chain ending with email from R. Dolden to D. Christal dated Aug. 10, 2015, Subject: RE: August 24	H; FO; 403 (cumulative)
3590	6/16/2015	LO_USA0028339	LO_USA0028343	Email chain ending with email from R. Dolden to A. Kerschner dated June 16, 2015, Subject: RE: Income Statement/licensing/Liqwd Inc IP	H; FO; Privacy

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3591				Intentionally Left Blank	N/A
3592				Intentionally Left Blank	N/A
3593	4/15/2015	LO_USA0028380	LO_USA0028381	Email from R. Dolden to P. Sharnsky dated April 15, 2015, Subject: RE: Olivia: next steps	H; FO
3594	5/13/2015	LO_USA0028442	LO_USA0028463	Email from R. Dolden to N. Milosh, L. Schmitt, A. Pagliano, P. Parenty, H. Kunetz, D. Morgan, M. Fluck, R. Rabinowitz, J. Huether, C. Carillon, F. Cervantes, M. Gringauz, A. Kerschner, dated May 13, 2015, Subject: RE: Olivia - Confidential, attaching Olivia Owner's Intention/Structure, Olivia RI Review pre DD April 29 v3, and draft Olivia V1	No Objection
3595	5/13/2015	LO_USA0028479	LO_USA0028479	Email chain ending with email from R. Dolden to V. Pivet dated May 13, 2015, Subject: RE: Olivia Business Planning	H; FO
3596	5/7/2015	LO_USA0028480	LO_USA0028480	Email chain ending with email from R. Dolden to D. allard dated May 7, 2015, Subject: RE: Olivia Initial Seller Request List	H; FO
3597	6/25/2015	LO_USA0028481	LO_USA0028481	Email chain ending with email from J. Gianni to D. Staats and R. Dolden dated June 25, 2015, Subject: RE: Olivia draft, attaching Project Olivia_Discussion materials_v56.pdf	H; FO; CP
3598	6/26/2015	LO_USA0028482	LO_USA0028506	Document Entitled: "Project Olivia, L'Oréal"	H; FO; CP
3599	5/20/2015	LO_USA0028508	LO_USA0028509	Email chain ending with email from R. Dolden to F. Cervantes dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3600	5/25/2015	LO_USA0028510	LO_USA0028510	Email from R. Dolden to M Gringauz, D. Allard, and F. Cervantes, dated May 25, 2015, Subject: RE: Olivia meeting R&I assessment - Executive summary	H; FO; CP
3601	6/14/2015	LO_USA0028511	LO_USA0028514	Email chain ending with email from R. Dolden to A. Kerschner dated June 14, 2015, Subject: RE: Olivia Opportunities & Risks - Urgent Request	H; FO
3602	6/14/2015	LO_USA0028518	LO_USA0028519	Email chain ending with email from R. Dolden to V. Pivet, H. Kunetz dated June 14, 2015, Subject: RE: Olivia Opportunities & Risks	H; FO

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3603	6/12/2015	LO_USA0028520	LO_USA0028520	Document Entitled: "Olivia Applications as a % of Total Bleach/Color Applications"	H; FO; CP
3604	4/16/2015	LO_USA0028528	LO_USA0028530	Email chain ending with email from R. Dolden to A. Verhulst-Santos, dated April 16, 2015, Subject: RE: Olivia Owner's Intention/Structure - Confidential	H; FO; 403 (cumulative)
3605	5/5/2015	LO_USA0028531	LO_USA0028533	Email chain ending with email from R. Dolden to V. Pivet, D. Morgan dated May 5, 2015, Subject: Olivia Project Timing	H; FO
3606	5/1/2015	LO_USA0028551	LO_USA0028552	Email chain ending with email from R. Dolden to S. Habif, H. Kunetz, J. Pahin, H. Toutain, J. Ascione, F. Cervantes, C. Goget, Y. Land dated May 1, 2015, Subject: RE: Pre DD R&I assessment deck	H; FO
3607	6/2/2015	LO_USA0028553	LO_USA0028554	Email chain ending with email from R. Dolden to N. Milosh dated June 2, 2015, Subject: RE: Project Olivia	H; FO
3608	6/7/2015	LO_USA0028555	LO_USA0028557	Email chain ending in email from R. Dolden to S. Habif dated June 7, 2015, Subject: RE: Project Olivia	H; FO
3609	6/1/2015	LO_USA0028558	LO_USA0028559	Email chain ending with email from R. Dolden to S. Habif dated June 1, 2015, Subject: RE: Project Olivia	H; FO
3610	6/2/2015	LO_USA0028560	LO_USA0028561	Email from R. Dolden to J. Ascione, F. Cervantes, D. Allard, H. Kunetz, V. Pivet, and A. Kerschner, dated June 2, 2015, Subject: RE: Project Olivia	H; FO
3611	3/20/2016	LO_USA0028562	LO_USA0028562	Email chain ending with R. Dolden to P. Sharnsky dated March 20, 2016, Subject: RE: Project Olivia	H; FO
3612	5/13/2015	LO_USA0028566	LO_USA0028566	Email chain ending with email from R. Dolden to D. Christal dated May 13, 2015, Subject: RE: Project Olivia - Confidential	H; FO; 403 (cumulative)
3613	4/29/2015	LO_USA0028567	LO_USA0028567	Email chain ending with email from R. Dolden to S. habif dated April 29, 2015, Subject: RE: Project Olivia - Confidential	H; FO
3614	5/22/2015	LO_USA0028569	LO_USA0028570	Email chain ending with email from R. Dolden to A. Kerschner dated May 22, 2015, Subject: Re Project Olivia - Meeting with Owner Scientist - Strictly Confidential	H; FO

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3615	4/27/2015	LO_USA0028573	LO_USA0028573	Email chain ending with email from R. Dolden to M. Gringauz dated April 27, 2015, Subject: Re: Project Olivia - RI Specific Clean Team Guidelinesv2 - Confidential	H; FO; CP
3616	6/3/2015	LO_USA0028588	LO_USA0028591	Email chain ending with email from R. Dolden to C. Carillon, M. Fluck dated June 3, 2015, Subject: RE: Project Olivia --- Supply Chain	H; FO
3617	4/17/2015	LO_USA0028606	LO_USA0028607	Email from R. Dolden to R. Dolden, dated April 17, 2015, Subject: RE: Project Olivia - Our Call Today	No Objection
3618	6/2/2015	LO_USA0028647	LO_USA0028647	Email from R. Dolden to N. Milosh, dated June 2, 2015, Subject: RE: Project Olivia Plan B?	H; FO
3619	5/5/2015	LO_USA0028654	LO_USA0028656	Email from R. Dolden, N. Hieronimus, L. Attal, A. Evrard, A. Verhulst-Santos, J. Ascione, F. Roze, M. Gringauz, S. Habif, and H. Kunetz, dated May 5, 2015, Subject: RE: Project Olivia Status --- Confidential	H; FO; CP
3620	6/23/2015	LO_USA0029173	LO_USA0029178	Document Entitled: "PPD US, Full 2014 Fully Allocated P/L"	H; FO; CP
3621	6/30/2015	LO_USA0029179	LO_USA0029194	Email from J. Chabot to L. Schmitt, N. Milosh, R. Dolden, A. Kerschner, V. Pivet, dated June 30, 2015, Subject: Cancel & replace Olivia scenarios Buy or Make.xlsx	H; FO
3622	8/18/2015	LO_USA0029204	LO_USA0029205	Email chain ending with email from B. Fontaine to H. Kunetz, R. Dolden, P. Parenty dated Aug. 18, 2015, Subject: FW: Phone discussion with Dean from Olaplex	H; FO
3623	6/22/2015	LO_USA0029482	LO_USA0029482	Email chain ending with email from P. Sharnsky to R. Dolden dated June 22, 2015, Subject: FW: Olaplex	No Objection
3624	5/20/2015	LO_USA0030581	LO_USA0030583	Email chain ending with email from F. Cervantes to M. Gringauz dated May 20, 2015, Subject: FW: Olivia meeting May 19th - R&I assessment	H; FO; CP
3625	5/20/2015	LO_USA0030584	LO_USA0030588	Document Entitled: "Project Olivia - Summary of Confidential Requirements"	H; FO

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3626	6/28/2015	LO_USA0030589	LO_USA0030590	Email chain ending with email from H. Kunezt to D. morgan and R. Dolden dated June 28, 2015, Subject: FWD: Olaplex	No Objection
3627	7/22/2015	LO_USA0030591	LO_USA0030591	Document Entitled: "OLIVIA project, Meeting of 21.07.2015"	No Objection
3628	5/26/2015	LO_USA0030602	LO_USA0030655	Email chain ending with email from A. Kerschner to J. Chabot dated May 26, 2015, Subject: FW: Project Olivia --- Supply Chain	Incorrect bate- stamp range; H; FO; CP
3629	5/26/2015	LO_USA0030606	LO_USA0030655	Document Entitled: "Project Olivia, International Business Plan, v 0-5-3"	H; FO; CP; Q
3630	5/4/2015	LO_USA0030675	LO_USA0030676	Email chain ending with email from P. Parenty to R. Dolden, H. Kunezt, D. Morgan, B. Fontaine, V. Pivet, dated May 4, 2015, Subject: FW: Project Olivia Report	H; FP; CP
3631	5/4/2015	LO_USA0030677	LO_USA0030678	Document Entitled: "Project Olivia Report"	H; FO; CP; Q
3632	5/4/2015	LO_USA0030679	LO_USA0030697	Document Entitled: "Project Olivia Report"	H; FO; CP; Q
3633	5/4/2015	LO_USA0030698	LO_USA0030721	Document Entitled: "Project Olivia Report"	H; FO; CP; Q
3634	4/15/2015	LO_USA0030726	LO_USA0030728	Email chain ending with email from H. Kunezt to S. Habif, dated April 15, 2015, Subject: FWD: Olivia Owner's Intention/Structure - Confidential	H; FO
3635	6/24/2015	LO_USA0031910	LO_USA0031913	Email from H. Kunezt to V. Pivet to J. Chabot dated June 24, 2015, Subject: MS assumption, attaching market potential inc straight v3.xlsx	H; FO
3636	8/18/2015	LO_USA0032966	LO_USA0032966	Email from B. Fontaine to H. Kunezt, R. Dolden, P. Parenty, and D. Morgan, dated August 18, 2015, Subject: Olaplex patent system	H; FO
3637	5/22/2015	LO_USA0035067	LO_USA0035068	Email from D. Allard to R. Dolden, M. Gringauz, and F. Cervantes, dated May 22, 2015, Subject: Olivia meeting R&I assessment - Executive summary, attaching R&I executive summary Olivia meeting May 19th	H; FO; CP
3638	5/20/2015	LO_USA0035071	LO_USA0035074	Email from D. Allard to R. Dolden, H. Kunezt, M. Gringauz, and F. Cervantes, dated May 20, 2015, Subject: Olivia meeting May 19th - R&I assessment, attaching R&I assessment Olivia meeting May 19th	H; FO

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3639	6/11/2015	LO_USA0035075	LO_USA0035075	Email from J. Chabot to V. Pivet, H. Kunetz, R. Dolden, A. Kerschner dated June 11, 2015, Subject: Olivia International BP v8 150611.xlsx	H; FO; CP
3640	6/11/2015	LO_USA0035076	LO_USA0035039	Document Entitled: "Project Olivia, International Business Plan, v 0-5-3"	Incorrect bate-stamp range; H; FO; Q
3641	6/12/2015	LO_USA0035140	LO_USA0035143	Email from A. Kerschner to D. Morgan, V. Pivet, H. Kunetz, M. Fluck, J. Chabot, R. Dolden dated June 12, 2015, Subject: Olivia Opportunities & Risks - Urgent Request	H; FO
3642	4/7/2015	LO_USA0035258	LO_USA0035258	Email from H. Kunetz to S. Habib dated April 7, 2015, Subject: Project Olivia: Feedback on patents	H; FO
3643	5/5/2015	LO_USA0035259	LO_USA0035259	Email from R. Dolden to R. Dolden dated May 5, 2015, Subject: Project Olivia - Notes on R&I Meeting	No Objection
3644	4/27/2015	LO_USA0035260	LO_USA0035263	Email from M. Gringauz to R. Dolden and S. Habib dated April 27, 2015, Subject: Project Olivia - RI Specific Clean Team Guidelinesv2 - Confidential	H; FO
3645	5/1/2015	LO_USA0035271	LO_USA0035276	Email from S. Habib to H. Kunetz, R. Dolden, J. Pahin, H. Toutain, J. Ascione, F. Cervantes, C. Goget, and Y. Land, dated May 1, 2015, Subject: Pre DD R&I assessment deck, attaching OLIVIA RI Review pre DD April 29 v3 .pptx	H; FO
3646	7/8/2015	LO_USA0035277	LO_USA0035279	Email from M. Gringauz to R. Dolden, dated July 8, 2015, Subject: Project Olivia Permission List clean 6-01-15, attaching Project Olivia Permission List clean 6-01-15.docx	H; FO
3647	7/1/2015	LO_USA0035280	LO_USA0035304	Document Entitled: "Project Olivia, L'Oréal"	H; FO; 403 (cumulative)
3648	5/19/2015	LO_USA0035305	LO_USA0035310	Email from M. Gringauz to S. Habib, F. Cervantes, R. Dolden, and T. Sarakatsannis, dated May 19, 2015, Subject: Project Olivia Summary of Confidentiality Requirements, attaching Project Olivia Summary of Confidentiality Requirements	H; FO

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3649	7/1/2015	LO_USA0035311	LO_USA0035335	Document Entitled: "Project Olivia, L'Oréal"	H; FO; 403 (cumulative)
3650	6/23/2015	LO_USA0035352	LO_USA0035352	Email chain ending in email from V. Pivet to H. Kunetz, J. Chabot dated June 23, 2015, Subject: RE: Copy of 150623 market potential inc straight comments hugo.xlsx	H; FO; CP
3651	3/23/2015	LO_USA0035353	LO_USA0035354	Email from H. Kunetz to S. Habif, F. Roze, P. Parenty, V. Pivet, and R. Dolden dated March 23, 2015, Subject: RE: Confidential: Olaplex	H; FO
3652	6/26/2015	LO_USA0035466	LO_USA0035469	Email from A. Pagliano to R. Dolden and F. Roze, dated July 26, 2015, Subject: RE: Olivia --- Challenge to the Brand	H; FO
3653	6/30/2015	LO_USA0035473	LO_USA0035497	Project Olivia Discussion Materials 2015 0701.pdf	H; FO; 403 (cumulative)
3654	5/20/2015	LO_USA0035500	LO_USA0035501	Email chain ending with email from K. O'Rourke to R. Dolden dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3655	5/20/2015	LO_USA0035502	LO_USA0035503	Email chain ending with email from K. O'Rourke to R. Dolden dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3656	5/21/2015	LO_USA0035504	LO_USA0035504	Email chain ending with email from D. Allard to M. Gringauz, R. Dolden dated May 21, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3657	5/20/2015	LO_USA0035505	LO_USA0035506	Email chain ending with email from M. Gringauz to R. Dolden, F. Cervantes, dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO; CP
3658	5/20/2015	LO_USA0035505	LO_USA0035511	Email from M. Gringauz to R. Dolden, F. Cervantes, H. Kunetz, D. Allard, and K. O'Rourke, dated May 20, 2015, attaching Project Olivia Summary of Confidentiality Requirements	H; FO
3659	5/20/2015	LO_USA0035512	LO_USA0035513	Email from F. Cervantes to M. Gringauz, R. Dolden, H. Kunetz, D. Allard, and K. O'Rourke, dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO; 403 (cumulative)

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3660	5/20/2015	LO_USA0035514	LO_USA0035515	Email chain ending with email from D. Allard to F. Cervantes, M. Gringauz, R. Dolden dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3661	5/20/2015	LO_USA0035516	LO_USA0035516	Email chain ending with email from F. Cervantes to D. Allard, M. Gringauz, R. Dolden dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3662	5/20/2015	LO_USA0035517	LO_USA0035517	Email chain ending with email from M. Gringauz to R. Dolden, D. Allard, K. O'Rourke, dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3663	5/20/2015	LO_USA0035518	LO_USA0035518	Email chain ending with email from H. Kunez to M. Gringauz, dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO; CP
3664	5/21/2015	LO_USA0035519	LO_USA0035519	Email chain ending with email from M. Gringauz to D. Allard and R. Dolden dated May 21, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3665	5/20/2015	LO_USA0035521	LO_USA0035521	Email chain ending with email from M. Gringauz to H. Kunez dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO; CP
3666	5/24/2015	LO_USA0035524	LO_USA0035524	Email chain ending with email from M. Gringauz to D. Allard and R. Dolden dated May 24, 2015, Subject: RE: Olivia meeting R&I assessment - Executive summary	H; FO; CP; 403 (cumulative)
3667	5/22/2015	LO_USA0035525	LO_USA0035525	Email chain ending with email from H. Kunez to R. Dolden dated May 22, 2015, Subject: RE: Olivia Memo - Draft	H; FO
3668	6/4/2015	LO_USA0035527	LO_USA0035530	Email chain ending with email from R. Dolden to R. Dolden dated June 4, 2015, Subject: RE: Olivia One Time Costs	H; FO
3669	5/4/2015	LO_USA0035550	LO_USA0035551	Email chain ending with email from S. habif to R. Dolden dated May 4, 2015, Subject: RE: Pre DD R&I assessment deck	H; FO

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3670	6/9/2015	LO_USA0035552	LO_USA0035554	Email chain ending with email from S. Habif to R. Dolden dated June 9, 2015, Subject: RE: Project Olivia	H; FO
3671	6/2/2015	LO_USA0035564	LO_USA0035565	Email chain ending with email from H. Kunetz to R. Dolden dated June 2, 2015, Subject: RE: Project Olivia	H; FO
3672	6/1/2015	LO_USA0035566	LO_USA0035566	Email from S. Habif to R. Dolden, J. Ascione, F. Cervantes, D. Allard, H. Kunetz, and V. Pivet, dated June 1, 2015, Subject: RE: Project Olivia	H; FO
3673	4/29/2015	LO_USA0035567	LO_USA0035567	Email from S. Habif to R. Dolden and M. Gringauz, dated April 29, 2015, Subject: RE: Project Olivia	H; FO
3674	4/28/2015	LO_USA0035568	LO_USA0035568	Email chain ending with email from H. Kunetz to R. Dolden dated April 28, 2015, Subject: RE: Project Olivia	H; FO
3675	4/18/2015	LO_USA0035573	LO_USA0035573	Email chain ending with email from P. Sharnsky to R. Dolden dated April 18, 2015, Subject: RE: Project Olivia	No Objection
3676	4/29/2015	LO_USA0035577	LO_USA0035577	Email from D. Allard to R. Dolden dated April 29, 2015, Subject: RE: Project Olivia - Confidential	H; FO
3677	4/29/2015	LO_USA0035578	LO_USA0035578	Email chain ending with email from S. habif to R. Dolden and D. Allard dated April 29, 2015, Subject: RE: Project Olivia - Confidential	H; FO; 403 (cumulative)
3678	4/17/2015	LO_USA0035580	LO_USA0035581	Email from R. Dolden to R. Dolden dated April 17, 2015, Subject: RE: Project Olivia - Our Call Today	No Objection
3679	6/29/2015	LO_USA0035856	LO_USA0035863	Email from D. Staats to R. Dolden, M. Gringauz, and J. Gianni, dated June 29, 2015, Subject: RE: Project Olivia Earn Out, attaching LOI Draft	H; FO
3680	5/19/2015	LO_USA0037107	LO_USA0037108	Email chain ending with email from F> Cervantes to M. Gringauz dated May 19, 2015, Subject: RE: Project Olivia Summary of Confidentiality Requirements	H; FO
3681	5/19/2015	LO_USA0037109	LO_USA0037110	Email from M. Gringauz to F. Cervantes, T. Srakatsannis, R. Dolden, and S. Habif, dated May 19, 2015, Subject: RE: Project Olivia Summary of Confidentiality Requirements	H; FO

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3682	6/3/2015	LO_USA0038577	LO_USA0038578	Email from A. Kerschner to K. O'Rourke dated June 3, 2015, Subject: US Sales Build Page from BP	H; FO
3683	6/26/2015	LO_USA0038579	LO_USA0038586	Document Entitled: "Project Olivia"	H; FO
3684	5/26/2015	LO_USA0038587	LO_USA0038587	Email from D. Allard to L. Attal, S. Habif, J. Ascione, J. Pahin, A. Evrard, dated May 26, 2015, Subject: Olivia meeting with Owner / Scientist on May 19th- R&I assessment Executive summary - Strictly confidential	H; FO; CP
3685	5/26/2015	LO_USA0038588	LO_USA0038589	Document Entitled: "R&I Executive Summary Following Olivia Meeting on May 19th, Strictly Confidential"	H; FO; CP
3686	5/26/2015	LO_USA0038590	LO_USA0038592	Email from R. Dolen to M. Gringauz and D. Allard, dated May 26, 2015, Subject: FW: Olivia meeting with Owner/Scientist on may 19th - R&I assessment Executive summary - Strictly confidential, attaching R&I executive summary Olivia meeting May 19th.docx	H; FO
3687	5/26/2015	LO_USA0038593	LO_USA0038595	Email from D. Allard to L. Attal, S. Habif, J. Ascione, J. Pahin, A. Evrard, A. Verhulst-Santos, N. Hieronimus, V. Pivet, F. Roze, H. Kunetz, P. Parenty, D. Morgan, C. Mulliez, L. Schmitt, N. Milosh, dated May 26, 2015, Subject: Olivia meeting with Owner/Scientist on Ma 19th - R&I assessment Executive summary - strictly confidential, Olivia meeting with Owner Scientist on May 19th- R&I assessment.msg, dated May 26, 2015, attaching R&I executive summary Olivia meeting May 19th.docx	H; FO
3688	5/26/2015	LO_USA0038596	LO_USA0038596	Email from M. Gringauz to R. Dolden dated May 26, 2015, Subject: RE: Olivia meeting with Owner/Scientist on May 19th-R&I assessment Executive summary - Strictly confidential	H; FO
3689	7/21/2015	LO_USA0038597	LO_USA0038603	Email from A. Evrard to R. Dolden dated July 21, 2015, Subject: TR: Reunion Olivia - 21 juillet 2015	H; FO

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3690	1/13/2016	LO_USA0038604	LO_USA0038605	Email from C. Deschryver to F. hernandez, J. Townsend, J. Caetano, R. Hrymoc and others, dated jan. 13, 2016, Subject: RE: Monthly TKO meeting: Bonder	H; FO; CP
3691	2/16/2016	LO_USA0038606	LO_USA0038606	Email from C. Shum to F. Boulineau, A. Chin, A. Potin, C. Goget dated Feb. 16, 2016, Subject: Bonder OFF - June timing	H; FO
3692	12/8/2015	LO_USA0038607	LO_USA0038607	Email from C. Deschryver to F. Hernandez, J. Townsend, J. Caetano, R. Hrymoc and others, dated Dec. 8, 2015, Subject: Monthly TKO meeting: Bonder	H; FO; CP
3693	12/8/2015	LO_USA0038608	LO_USA0038611	Email from C. Deschryver to A. Delaune, J. mill, F. Saudrais, L. Escrouzailles, and others, dated Dec. 8, 2015, Subject: FW: PROJECT KICK-OFF: Redken pH Bonder. July 2016 PAM	No Objection
3694	12/8/2015	LO_USA0038612	LO_USA0038612	Image of Redken pH Bonder	H; FO
3695	12/8/2015	LO_USA0038613	LO_USA0038613	Image of Redken pH Bonder	H; FO
3696	12/9/2015	LO_USA0038614	LO_USA0038615	Email chain ending with email from N. Lim to C. Masclet, C. Deschryver and others, dated Dec. 9, 2015, Subject: RE: Monthly TKO meeting: Bonder	H; FO; CP
3697	12/8/2015	LO_USA0038616	LO_USA0038620	Document Entitled: "Functional Risk Analysis Checklist "	H; FO; CP
3698	12/9/2015	LO_USA0038621	LO_USA0038627	Email from A. Chin to N. Lim, C. Masclet, C. Deschryver and others, dated Dec. 9, 2015, Subject: RE: Monthly TKO meeting: Bonder	H; FO
3699	9/9/2016	LO_USA0038913	LO_USA0038917	Email chain ending with email from M. Crim to C. Goget dated Sept. 9, 2016, Subject: RE: Stylists Response to pHBonder from OLAPLEX Forum	H; FO; 403; AU
3700	9/8/2016	LO_USA0038918	LO_USA0038918	Facebook thread begun by Sarah Marie Brown	H; FO; 403; AU; CP
3701	9/8/2016	LO_USA0038919	LO_USA0038919	Facebook thread begun by Sarah Marie Brown - continued	H; FO; 403; AU; CP
3702	8/31/2016	LO_USA0038920	LO_USA0038920	Facebook thread begun by Ashley Medina	H; FO; 403; AU; CP

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3703	8/31/2016	LO_USA0038921	LO_USA0038921	Facebook thread begun by Ashley Medina - continued	H; FO; 403; AU; CP
3704	11/23/2016	LO_USA0038961	LO_USA0038964	Article: "L'Oréal sued over haircare product by California start-up"	H; FO; REL
3705	7/23/2014	LO_USA0038965	LO_USA0038965	Email chain ending with email from M. Degeorge to M. Crim, dated July 23, 2014, Subject: Olaplex MSDS	H; FO; CP
3706				Intentionally Left Blank	
3707	8/22/2014	LO_USA0038971	LO_USA0038995	Email from C. Shaw to K. Leung, A. Elsen, E. Badman, F. Boulineau dated Aug. 22, 2014, Subject: RE: olaplex slides	H; FO
3708	8/21/2014	LO_USA0039003	LO_USA0039007	Material Safety Data Sheet for Olaplex Bond Multiplier No. 1 dated June 2014	H; FO
3709	8/27/2014	LO_USA0039008	LO_USA0039008	Email from M. Zellner to K. hamilton, M. Degeorge, M. Soliman, A. Elsen, C. Goget, H. Bryant, K. Leung, C. Shaw, dated Aug. 27, 2014, Subject: FW: Olaplex Crosslinker.pptx	H; FO; CP
3710	8/27/2014	LO_USA0039009	LO_USA0039012	Document Entitled: "Olaplex"	H; FO; CP
3711				Intentionally Left Blank	
3712	8/27/2014	LO_USA0039131	LO_USA0039131	Email from K. Hamilton to K. Leung Re: Olaplex Update Meeting Recap	No Objection
3713	10/9/2014	LO_USA0039132	LO_USA0039135	Email from C. Goget to M. Kanji, F. Legrand, dated Oct. 9, 2014, Subject: Olaplex slides for JPA meeting	H; FO
3714	1/14/2015	LO_USA0039157	LO_USA0039160	Email from K. Hamilton to F. Boulineau, dated January 14, 2015, Subject: FW: Discussion on hydrolyzed bismaleimido	H; FO
3715				Intentionally Left Blank	
3716		LO_USA0039227	LO_USA0039227	Facebook thread beginning with Jennifer Boyce	H; FO; CP; Q; AU
3717	8/6/2015	LO_USA0039228	LO_USA0039232	Email from C. Goget to S. habif, F. Legrand, J. Ascione and others dated Aug. 6, 2015, Subject: RE: BONDING PROJECT : main outcomes of our 2 days and action plan for the next weeks.msg	H; FO
3718	6/22/2015	LO_USA0039233	LO_USA0039233	Email thread ending with email from C. Goget to K. Hamilton, F. Boulineau, dated June 22, 2015, Subject: TR: "BONDING" project - Action plan for next week	H; FO

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3719	8/4/2014	LO_USA0039240	LO_USA0039249	Document Entitled: "CMO Alert, Brand Snapshot Olaplex"	No Objection
3720				Intentionally Left Blank	
3721	6/2014	LO_USA0039255	LO_USA0039259	Document Entitled: "Material Safety Data Sheet, Finished Product Name: Olaplex Bond Perfector No. 2/Olaplex Hair Perfector No. 3"	H; FO
3722	12/9/2015	LO_USA0039260	LO_USA0039271	Scan of Olaplex boxes 1st and 2nd gen	H; FO
3723	8/25/2014	LO_USA0039272	LO_USA0039284	Document Entitled: "Olaplex, Project Update 25 Aug. 2014"	H; FO
3724	8/27/2015	LO_USA0039290	LO_USA0039298	Email chain ending with mail from K. Hamilton to G. Provot, F. Boulineau dated Aug. 27, 2015, Subject: FW: BONDING PROJECT : main outcomes of our 2 days and action plan for the next weeks.msg	H; FO
3725				Intentionally Left Blank	
3726				Intentionally Left Blank	
3727	11/4/2015	LO_USA0039307	LO_USA0039320	Email from C. Goget to A. Grevillot and others, dated November 4, 2015, Subject: RE: Bonding - Sourcing of 3-butoxypropylamine	H; FO
3728	6/23/2015	LO_USA0039321	LO_USA0039322	Email from C. Goget to F. Legrand, K. Hamilton, F. Boulineau, and M. Soliman, dated June 23, 2015, Subject: RE: "BONDING" project - Action plan for next week	H; FO
3729	5/29/2015	LO_USA0039323	LO_USA0039326	Email from M. DeGeorge, A. Lahaye, S. Habif, J. Ascione, M. Kanji, C. Goget, A. Potin, M. Applebaum, E. De La Bandera, K. Hamilton, F. Boulineau, dated May 29, 2015, Subject: Re: Olaplex lab screening	H; FO
3730				Intentionally Left Blank	
3731				Intentionally Left Blank	
3732	8/9/2015	LO_USA0039362	LO_USA0039366	Email from A. Potin, dated August 9, 2015, Subject: RE: BONDING PROJECT: main outcomes of our 2 days and action plan for the next weeks	H; FO
3733				Intentionally Left Blank	
3734				Intentionally Left Blank	

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3735	5/28/2015	LO_USA0039399	LO_USA0039408	Email from A. Lahaye, to C. Goget, A. Potin, M. DeGeorge, F. Boulineau, K. Hamilton, dated May 28, 2015, Subject: RE: Olaplex lab screening, with attachments	H; FO
3736	6/10/2015	LO_USA0039440	LO_USA0039440	Email from A. Potin, dated June 10, 2015, Subject: RE: Olivia - Summary from last week + pending results	H; FO; CP
3737	8/21/2015	LO_USA0039442	LO_USA0039442	Email from A. Lahaye to F. Boulineau, dated August 21, 2015, Subject: FW: BONDING PROJECT -stylist workshop (Aug 17) debrief	H; FO; CP
3738	6/7/2015	LO_USA0039447	LO_USA0039447	Email from S. Habif to C. Goget, J. Ascione, F. Legrand, M. Kanji, A. Potin, D. Velkov, F. Boulineau, A. Mahadeshwar, dated June 7, 2015, Subject: RE: Olivia - Summary from last week + pending results	H; FO; CP
3739	6/10/2015	LO_USA0039453	LO_USA0039446	Email from C. Goget to S. Habif, J. Ascione, F. Legrand, M. Kanji, A. Potin, D. Velkov, F. Boulineau, a. Mahadeshwar, F. Pataut, dated June 10, 2015, Subject: RE: FOX - RM and safety Action Plan, with attachments	Misstated bate-stamp range; H; FO; CP
3740	11/23/2016	LO_USA0040971	LO_USA0040972	November 22, 2016, The Financial Times article, "L'Oréal sued over haircare product by Californian start-up"	H; FO; REL
3741	9/15/2016	LO_USA0040977	LO_USA0040978	Email from K. O'Rourke dated Sept. 15, 2016, Subject: May 2016 Market and Sell Through	H; FO; REL
3742				Intentionally Left Blank	
3743				Intentionally Left Blank	
3744	9/2/2015	LO_USA0041123	LO_USA0041125	Email from R. Dolden to F. Roze dated Sept. 2, 2015, Subject: Project Olivia - Confidential with attachment	No Objection
3745	3/20/2016	LO_USA0041126	LO_USA0041127	Email from R. Dolden to P. Sharnsky dated March 20, 2016, Subject: Re: Project Olivia	H; FO
3746	3/21/2016	LO_USA0041128	LO_USA0041128	Email from R. Dolden to D. Christal dated March 21, 2016, Subject: Call	H; FO

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3747	9/2/2015	LO_USA0041129	LO_USA0041130	Email from R. Dolden to R. Dolden dated Sept. 2, 2015, Subject: Fwd Project Olivia --- Notes of Yesterday's Meeting with Dean Cristal - confidential	H; FO
3748	10/15/2015	LO_USA0041131	LO_USA0041132	Email from R. Dolden to S. Habif, M. Kanji, F. Cervantes dated Oct. 15, 2015, Subject: Olaplex IP with attachment	H; FO
3749	9/2/2015	LO_USA0041134	LO_USA0041135	Project Olivia Notes September 1 Meeting with Dean Cristal Confidential	403 (cumulative)
3750	3/20/2016	LO_USA0041136	LO_USA0041136	Email from R. Dolden to P. Sharnsky dated March 20, 2016, Subject: Re: Project Olivia	H; FO
3751	9/2/2015	LO_USA0041137	LO_USA0041138	Olivia Notes September 1 Meeting with Dean Cristal	403 (cumulative)
3752	9/2/2015	LO_USA0041139	LO_USA0041140	Email from R. Dolden to R. Dolden dated September 2, 2015, Subject: Project Olivia --- Notes of September 1 Meeting with Dean Cristal - Confidential	H; FO
3753	9/2/2015	LO_USA0041141	LO_USA0041141	Email from R. Dolden to R. Dolden dated Sept. 2, 2015, Subject: Project Olivia --- Notes of Yesterday's Meeting with Dean Cristal -confidential	H; FO
3754	8/27/2015	LO_USA0041142	LO_USA0041144	Email from R. Dolden to D. Christal dated August 27, 2015, Subject RE: Meeting Dates	403 (cumulative)
3755				Intentionally Left Blank	N/A
3756	8/20/2015	LO_USA0041148	LO_USA0041150	Email from R. Dolden to D. Christal dated August 20, 2015, Subject: RE: Meeting Dates	H; FO; 403 (cumulative)
3757	8/7/2015	LO_USA0041151	LO_USA0041151	Email from R. Dolden to D. Christal dated August 7, 2015, Subject: August 20?	H; FO; 403 (cumulative)
3758	8/10/2015	LO_USA0041158	LO_USA0041159	Email from R. Dolden to D. Christal dated August 10, 2015, Subject: August 24	H; FO; 403 (cumulative)
3759	8/19/2015	LO_USA0041160	LO_USA0041160	Email frm R. Dolden to H. Kunetz dated August 19, 2015, Subject: Re: Olaplex patent system	H; FO
3760	7/9/2015	LO_USA0041195	LO_USA0041197	Email from R. Dolden to D. Christal dated June 9, 2015, Subject: Re: L'Oreal is against Olaplex - serious (local) issue - Confidential	No Objection

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3761	6/8/2015	LO_USA0046802 LO_USA0000467	LO_USA0046846 LO_USA0000468	Email from R. Dolden to V. Pivet, H. Kunetz, S. Habif, F. Cervantes, D. Allard, J. Ascione, A. Verhulst-Santos, J. Chabot, F. Roze, D. Morgan, M. Fluck, and A. Kerschner, dated June 8, 2015, Subject: Hair Protecting Additives - Trend Vision Report, with attachments	H; FO; COMP
3762	5/26/2015	LO_USA0048286	LO_USA0048288	Email from R. Dolden to M. Gringauz and D. Allard, dated May 26, 2015, Subject: FW: Olivia meeting with Owner/Scientist on May 19th - R&I assessment Executive summary - Strictly confidential, with attachment	H; FO
3763	4/15/2015	LO_USA0049404	LO_USA0049405	Email from R. Dolden to H. Kunetz dated April 15, 2015, Subject: Olivia Owner's Intention/Structure - Confidential	No Objection
3764	5/22/2015	LO_USA0049423	LO_USA0049424	Email fom R. Dolden to D. Morgan, P. Sharnsky, H. Kunetz dated May 22, 2015, Subject: RE: OLAPLEX PROJECTION	H; FO
3765	5/8/2015	LO_USA0049646	LO_USA0049648	Email from R. Dolden dated May 8, 2015, Subject: RE: Project Olivia Status - Confidential	H; FO
3766	5/8/2015	LO_USA0049649	LO_USA0049649	Email from R. Dolden to D. Morgan dated May 8, 2015, Subject: Re: Olivia BP	H; FO
3767	5/8/2015	LO_USA0049650	LO_USA0049650	Email from R. Doldne to D. Morgan, M. Fluck, B. Fontaine dated May 8, 2015, Subject: RE: Olivia BP	H; FO
3768	5/7/2015	LO_USA0049651	LO_USA0049651	Email from R. Dolen to D. Allard dated May 7, 2015, Subject FW: Olivia Initial Seller Request List	No Objection
3769	5/8/2015	LO_USA0049652	LO_USA0049652	Email from R. Dolden to N. Milosh dated May 8, 2015, Subject: RE: Olivia	H; FO
3770	5/7/2015	LO_USA0049653	LO_USA0049653	Email from R. Dolden to D. Allard, dated May 7, 2015, Subject: RE: Olivia Initial Seller Request List	H; FO
3771				Intentionally Left Blank	N/A
3772				Intentionally Left Blank	N/A
3773	5/5/2015	LO_USA0049655	LO_USA0049655	Email from R. Dolden to R. Dlden dated May 5, 2015, Subject: Project Olivia - Notes on R&I Meeting	No Objection

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3774	5/5/2015	LO_USA0049656	LO_USA0049658	Email from R. Dolden dated May 5, 2015, Subject: RE: Project Olivia Status -Confidential	H; FO
3775	5/5/2015	LO_USA0049659	LO_USA0049661	Email from R. Dolden to A. Evrard dated May 5, 2015, Subject: Re: Project Olivia Status - Confidential	H; FO
3776	5/5/2015	LO_USA0049666	LO_USA0049668	Email from R. Dolden to A. Evrard dated May 5, 2015, Subect: RE: Project Olivia Status -Confidential	H; FO
3777	5/5/2015	LO_USA0049673	LO_USA0049675	Email from R. Dolden dated May 5, 2015, Subject: RE: Olivia Project Timing	H; FO
3778	4/29/2015	LO_USA0049677	LO_USA0049677	Email from R. Dolden to S. Habif and M. Gringauz, dated April 29, 2015, Subject: RE: Project Olivia - Confidential	H; FO
3779	4/29/2015	LO_USA0049678	LO_USA0049678	Email from R. Dolden to S. Habif dated April 29 2015, Subject: RE: Project Olivia - Confidential	H; FO
3780				Intentionally Left Blank	N/A
3781	5/1/2015	LO_USA0049683	LO_USA0049688	Email from R. Dolden to A. Kershner, M. Fluck, and D.Morgan, dated May 1, 2015, Subject: FW: Pre DD R&I assessment deck, with attachment	H; FO
3782	5/1/2015	LO_USA0049683	LO_USA0049688	Email from R. Dolden to A. Kerschner, M. Fluck, D. Morgan dated May 1, 2015, Subject: FW: Pre DD R&I assessment deck, with attachment	H; FO; 403 (cumulative, see, e.g., 3781)
3783	4/28/2015	LO_USA0049689	LO_USA0049689	Email from R. Dolden to S. Habif, H. Kunetz dated april 28, 2015, Subject: Project Olivia	H; FO
3784	5/1/2015	LO_USA0049690	LO_USA0049691	Email from R. Dolden to S. Habif dated May 1, 2015, Subject: FW: Pre DD R&I assessment deck	H; FO; CP
3785	4/29/2015	LO_USA0049692	LO_USA0049692	Email from R. Dolden to D. Allard dated April 29, 2015, Subject: FW: Project Olivia - Confidential	H; FO
3786	4/29/2015	LO_USA0049693	LO_USA0049693	Email from R. Dolden to S. Habif dated April 29, 2015, Subject: Project Olivia	H; FO; 403 (cumulative)
3787	4/29/2015	LO_USA0049696	LO_USA0049697	Email from R. Dolden dated April 29, 2015, Subject: RE: Project Olivia Status - Confidential	H; FO
3788	4/29/2015	LO_USA0049698	LO_USA0049698	Email from R. Dolden to D. Allard, S. Habif, and M. Gringauz, dated April 29, 2015, Subject: Project Olivia - Confidential	H; FO

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3789	4/30/2015	LO_USA0049702	LO_USA0049704	Email from R. Dolden to H. Junetz, F. Roze, M. Gringauz dated April 30, 2015, Subject: FW: Project Olivia Status - Confidential	H; FO; CP
3790	4/27/2015	LO_USA0049705	LO_USA0049705	Email from R. Dolden to M. Gringauz dated April 27, 2015, Subject: Re: Project Olivia - RI Specific Clean Team Guidelinesv2 - Confidential	H; FO
3791	4/27/2015	LO_USA0049707	LO_USA0049707	Email from R. Dolden to A. Kerschmr, D. Morgan, M. Fluck dated April 27, 2015, Subect: Re: Olivia	H; FO
3792	4/22/2015	LO_USA0049716	LO_USA0049716	Email from R. Dolden to C. Dumas dated April 22, 2015, Subject: Project Olivia - Confidential	H; FO
3793	4/17/2015	LO_USA0049721	LO_USA0049722	Email from R. Dolden to R. Dolden dated April 17, 2015, Subject: RE: Project Olivia - Our Call Today	No Objection
3794	4/16/2015	LO_USA0049723	LO_USA0049723	Email from R. Dolden to P. Sharnsky dated April 16, 2015, Subject: Project Olivia	No Objection
3795	4/8/2015	LO_USA0049724	LO_USA0049736	Email from R. Dolden to F. Roze dated April 8, 2015, SubjectL Olaplex (Project Olivia)	H; FO
3796	10/15/2015	LO_USA0049928	LO_USA0049928	Email from S. Habif to R. Dolden, M. Kanji, and F. Cervantes, dated October 15, 2015, Subject: RE: Olaplex IP	H; FO
3797	3/20/2016	LO_USA0049929	LO_USA0049929	Email from P. Sharnsky to R. Dolden dated Mar. 20, 2016, Subject: RE: Project Olivia	H; FO
3798	6/30/2015	LO_USA0050096	LO_USA0050109	Email from J. Chabot dated June 20, 2015, Subject: Ollivia scenarios Buy or Make, with attachment	H; FO
3799	6/29/2015	LO_USA0050110	LO_USA0050111	Email from K. O'Rourke to R. Dolden dated June 29, 2015, Subject RE: Olaplex	No Objection
3800	6/29/2015	LO_USA0050112	LO_USA0050128	Email from J. Chabot dated June 29, 2015, Subject TR: Olivia scenarios Buy or Make, with attachment	H; FO
3801	6/29/2015	LO_USA0050129	LO_USA0050145	Email from J. Chabot to R. Dolden, A. Kerschmer, M. Fluck, D. Morgan, V. Pivet, H. Kunez dated June 29, 2015, Subject Olivia scenarios Buy or Make, with attachment	H; FO

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
3802	5/26/2015	LO_USA0052527	LO_USA0052529	Email from D. Allard to L. Attal, S. Habif, J. Ascione, J. Pahin, A. Evrard, F. Cervantes, R. Dolden, M. Gringauz, F. Deroy, and S. Vermelle, dated May 26, 2015, Subject: Olivia meeting with Owner/Scientist on May 19th - R&I assessment Executive summary -Strictly confidential, with attachment	H; FO
3803	6/5/2015	LO_USA0053868	LO_USA0053870	Email from S. Habif to R. Dolden, J. Ascione, F. Cervantes, D. Allard, H. Kunetz, V. Pivet, and A. Kerschner, dated June 5, 2015, Subject: RE: Project Olivia	H; FO
3804	5/20/2015	LO_USA0056057	LO_USA0056057	Email M. Gringauz to R. Dolden, D. Allard, K. O'Rourke dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO; 403 (cumulative)
3805	6/4/2015	LO_USA0056059	LO_USA0056060	Email from N. Milosh to R. Dolden dated June 4, 2015, Subject RE: Olivia Plan B? - Confidential	H; FO
3806	5/8/2015	LO_USA0056074	LO_USA0056075	Email from D. Allard to R. Dolden dated May 8, 2015, Subject: RE: Olivia Initial Seller Request List, with attachment	No Objection
3807	5/1/2015	LO_USA0056203	LO_USA0056205	Email from H. Kunetz to J. Ascione, S. Habif, R. Dolden, V. Pivet, F. Roze, A. Verhulst-Santos, and Z. Roman, dated May 1, 2015, Subject: Re: Project Olivia Status -Confidential	H; FO
3808	5/20/2015	LO_USA0056208	LO_USA0056208	Email from M. Gringauz to H. Kunetz, D. Allard, R. Dolden, and F. Cervantes, dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO
3809	5/21/2015	LO_USA0056212	LO_USA0056212	Email from M. Gringauz to D. Allard, and R. Dolden, dated May 21, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO; 403 (cumulative)
3810	6/9/2015	LO_USA0057364	LO_USA0057366	Email from S. Habif to R. Dolden, J. Ascione, F. Cervantes, D. Allard, H. Kunetz, and V. Pivet, dated June 9, 2015, Subject: Re: Project Olivia	H; FO

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
3811	5/26/2015	LO_USA0057377	LO_USA0057377	Email from M. Gringauz to R. Dolden and D. Allard, dated May 26, 2015, Subject: Re: Olivia meeting with Owner/Scientist on May 19th - R&I assessment Executive summary - Strictly confidential	H; FO
3812	6/18/2015	LO_USA0059967	LO_USA0059984	Presentation: Project Olivia June 18, 2015	H; FO; 403 (cumulative)
3813	5/26/2015	LO_USA0060030	LO_USA0060032	Email from D. Allard to L. Attal, S. Habif, J. Ascione, J. Pahin, A. Evrard, A. Verhulst-Santos, N. Hieronimus, V. Pivet, F. Roze, H. Kunetz, P. Parenty, D. Morgan, C. Mulliez, L. Schmitt, N. Milosh, F. Cervantes, R. Dolden, M. Gringauz, F. Dero, and S. Vermelle, dated May 26, 2015, Subject: Olivia meeting with Owner/Scientist on May 19th R&I assessment Executive summary - Strictly confidential, with attachment	H; FO; 403 (cumulative)
3814	4/29/2015	LO_USA0060039	LO_USA0060039	Email from S. Habif to R. Dolden, D. Allard, M. Gringauz dated April 29 2015, Subject: RE: Project Olivia - Confidential	H; FO; 403 (cumulative)
3815	5/22/2015	LO_USA0060045	LO_USA0060046	Email from D. Allard to R. Dolden, M. Gringauz, F. Cervantes dated May 22, 2015, Subject: Olivia meeting R&I assessment - Executive summary, with attachment	H; FO; 403 (cumulative)
3816	5/20/2015	LO_USA0060052	LO_USA0060052	Email from M. Gringauz to D. Allard, R. Dolden, H. Kunetz dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO; 403 (cumulative)
3817	5/20/2015	LO_USA0060053	LO_USA0060053	Email from H. Kunetz to M. Gringauz, D. Allard, R. Dolden, F. Cervantes dated May 20, 2015, Subject Re: Olivia meeting May 19th - R&I assessment	H; FO
3818	5/20/2015	LO_USA0060054	LO_USA0060055	Email from D. Allard to F. Cervantes, M. Gringauz, R. Dolden dated May 20, 2015, Subject: Re: Olivia meeting May 19th - R&I assessment	H; FO
3819	5/20/2015	LO_USA0060076	LO_USA0060076	Email from F. Cervantes to M. Gringauz, R. Dolden, D. Allard, K. O'Rourke dated May 20, 2015, Subject: RE: Olivia meeting May 19th - R&I assessment	H; FO; 403 (cumulative)

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
3820	5/11/2015	LO_USA0060083	LO_USA0060087	Email from K. O'Rourke to R. Dolden dated May 11, 2015, Subject: RE: Project Olivia Status - Confidential	No Objection
3821	5/19/2015	LO_USA0060097	LO_USA0060098	Email from M. Gringauz to F. Cervantes, T. Sarakatsannis, R. Dolden, S. Habif dated May 19, 2015, Subject: RE: Project Olivia Summary of Confidentiality Requirements	H; FO
3822	5/22/2015	LO_USA0060099	LO_USA0060105	Email from V. Niz dated May 22, 2015, Subject: Project Olivia - Summary of Confidentiality Requirements and Data Room-Clean Room Access, with attachments	H; FO
3823				Intentionally Left Blank	N/A
3824	5/21/2015	LO_USA0060108	LO_USA0060109	Email from D. Morgan, to P. Sharnsky, R. Dolden, H. Kunetz, and B. Fontaine, dated May 21, 2015, Subject: Re: OLAPLEX PROJECTION	H; FO
3825	5/20/2015	LO_USA0060112	LO_USA0060119	Email from F. Cervantez to M. Gringauz, D. Allard, R. Dolden, S. Habif, H. Kunetz, K. O'Rourke dated May 20, 2015, Subject: FW: Olivia meeting My 19th - R&I assesement, with attachment	H; FO
3826	4/29/2015	LO_USA0062242	LO_USA0062242	Email from D. Allard to R. Dolden, S. Habif, and M. Gringauz dated April 29, 2015, Subject: Re: Project Olivia - Confidential	H; FO; 403 (cumulative)
3827	4/6/2015	LO_USA0062308	LO_USA0062309	Email from P. Sharnsky to R. Dolden dated April 6, 2015, Subject: RE Project Olivia	H; FO
3828	5/15/2015	LO_USA0062774	LO_USA0062786	Presentation: Prohct Olivia 15/05/2015	H; FO
3829	5/12/2015	LO_USA0062787	LO_USA0062791	OLIVIA R&I Synthesis - PreDD	H; FO; CP
3830				Intentionally Left Blank	N/A
3831				Intentionally Left Blank	
3832	2/19/2016	LO_USA0063798	LO_USA0063798	Email from F. Legrand to C. Goget dated 2-16-2016 Re: FW MEA Residual analysis of bonding project (AU1602-0120)	H; FO
3833	5/1/2015	LO_USA0063799	LO_USA0063809	Email from F. Boulineau to C. Shaw et al. dated 5-1-2015 RE Olaplex 1st generation analytical report w attachment (Memo 5-1-2015)	H; FO

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3834	4/25/2016	LO_USA0063810	LO_USA0063812	Email from G. Provot to A. Potin et al. dated 4-25-2016; subject: RE Notification MILOR BONDING PROJECT VISUALISATION DE L'ACIDE MALEIQUE ET DE LA MEA MARQUES PAR ANALYSE NANOSIMS DE CHEVEUX DECOLORES SELON LE PROTOCOLE OLAPLEX STEP 1	H; FO
3835				Intentionally Left Blank	
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3838	7/24/2015	LO_USA0064166	LO_USA0064168	Email fro K. Norwood to S. Habif et al. dated 7-24-2015; subject: RE: BONDING: next steps instrumental	H; FO
3839				Intentionally Left Blank	
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3842	11/20/2015	LO_USA0065138	LO_USA0065159	Email from C. Goget to F. Legrand dated 11-20-2015; subject: TR Bonding Meeting with Advanced Research & Applied Research	H; FO
3843	9/29/2015	LO_USA0065160	LO_USA0065163	Email from R. Rughani to Jean-Thierry Simonnet et al., dated 9-29-2015; subject: Re Olaplex _Next steps with attachment	H; FO
3844				Intentionally Left Blank	
3845				Intentionally Left Blank	
3846	7/29/2015	LO_USA0065173	LO_USA0065180	Document entitled Bonding Project Managemnt	No Objection
3847	8/22/2014	LO_USA0065181	LO_USA0065205	Email from C. Shaw to K. Leung et al. dated 8-22-2014; subject: RE olaplex slides with attachment	H; FO
3848				Intentionally Left Blank	
3849	8/26/2018	LO_USA0065788	LO_USA0065788	Email from J. Hobby to M. Applebaum et al. dated 3-18-2016; subject: Professional Bonding Brands	H; FO
3850				Intentionally Left Blank	
3851				Intentionally Left Blank	
3852	1/25/2016	LO_USA0065845	LO_USA0065852	Claims - Bonding Summary Chart	H; FO; Q
3853	7/25/2016	LO_USA0065921	LO_USA0065924	Email from K. Dreher to R. Iancau dated 7-25-2016; subject: RE: HCS16-030 Bonding vs. Olaplex Daily Cell _ Step 1 + 2 Quantities	H; FO

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3854				Intentionally Left Blank	
3855		LO_USA0066572	LO_USA0066574	D. Christal notes provided at May 2015 meeting	Q; H.
3856	4/29/2015	LO_USA0067312	LO_USA0067313	Microbiological Study Results (Formula No. 1129601RK)	H; FO; REL
3857	4/7/2016	LO_USA0067314	LO_USA0067322	Product Performance Evaluation (PPE) Test Report Sensory Properties of P12 in Bleach Powder vs. Bleach Powder Alone (Study # COS-CAP-2016-0283)	H; FO; REL
3858	5/5/2015	LO_USA0067323	LO_USA0067334	Comparison of Anti-Breakage Properties of Bleach with Additives Report (CAP-MCI-US-1504-0006)	H; FO; REL
3859				Intentionally Left Blank	
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3865	8/10/2015	LO_USA0067464	LO_USA0067465	Microbiological Study Results (Formula No. 1129634IN3)	H; FO; REL
3866	6/22/2015	LO_USA0067466	LO_USA0067467	Microbiological Study Results (Formula No. 1129601RK)	H; FO; REL
3867	12/15/2015	LO_USA0067468	LO_USA0067469	Microbiological Study Results (Formula No. 37558 RDK1)	No Objection
3868				Intentionally Left Blank	
3869	9/23/2016	LO_USA0067507	LO_USA0067515	Product Performance Evaluation (PPE) Sensory Properties of P 12 Additive in Color Fusion vs. Color Fusion Alone (Study # COS-CAP-2016-0726)	H; FO; REL
3870	7/25/2016	LO_USA0067516	LO_USA0067541	Relaxer with Bonding Additive and Treatment [Formula #'s Additive: 37567 RDK (P12) Treatment: 1129601RK(C1) 1129681RK4 (C8)]	H; FO; REL
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3875	10/26/2016	LO_USA0067604	LO_USA0067612	Product Performance Evaluation (PPE) Sensory Properties of P 12 Additive in Majirel vs. Majirel Alone (Study # COS-CAP-2016-0982)	H; FO; REL
3876	9/28/2015	LO_USA0067613	LO_USA0067639	Bonding Additive w/ Treatment (Formula #'s: Additive: 37462 RDK Treatment: 1129634IN1/1129634IN5 Study #: ETU-PPE-15-006 Orchestra #: 2014-4285/A)	H; FO; REL
3877	2/16/2016	LO_USA0067643	LO_USA0067668	Bonding Additive w/ Treatment [Formula #s Additive: 37567 RDK (P12) Treatment: 1129634IN2 (C8)]	H; FO; REL
3878	2/3/2017	LO_USA0067669	LO_USA0067678	Product Performance Evaluation Hair Instrumental Evaluation - France Evaluation of the Impact of P12/C8 on Fiber Integrity in a Bleach Application Report (HEV-INS-FR-17-0058)	H; FO; REL
3879	5/20/2014	LO_USA0067679	LO_USA0067765	Lab Notebook L11315 (Badman)	H; FO; REL
3880	5/20/2014	LO_USA0067766	LO_USA0067925	Lab Notebook L11314 (Badman)	H; FO; REL
3881	6/17/2013	LO_USA0068084	LO_USA0068252	Lab Notebook L11161 (Pauker)	H; FO; REL
3882	1992	LO_USA0068271	LO_USA0068274	Excerpts of CTFA Cosmetic Ingredient Handbook (John A. Wenninger & G.N. McEwen eds., Cosmetic, Toiletry, and Fragrance Ass'n 2d ed. 1992) ("CTFA II")	BE, CP, FO, H
3883	2015	LO_USA0068287	LO_USA0068304	Simone Aparecida de Franca et al., Types of Hair Dye and Their Mechanisms of Action, 2 Cosmetics 2015 ("Aparecida de Franca")	H; FO
3884	2011	LO_USA0068340	LO_USA0068346	Sudhakar Mhaskar et al., Hair Breakage Index: An alternative tool for damage assessment of human hair, 62 J. Cosmet. Sci. 203 (2011) ("Mhaskar")	H; FO
3885	4/4/2017	LO_USA0068495	LO_USA0068678	Amended Grounds of Invalidity of the First and Second Defendants in the matter of Liqwd, Inc. v. L'Oréal (U.K.) Ltd., Claim No. HP-2016-000056 ("UK Amended Invalidity Grounds")	H; FO
3886	7/2007	LO_USA0068679	LO_USA0068689	Catzy Blonde, Mintel Database Entry and Box Translation ("Mintel I")	AU, COMP, FO, H

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3887	2010	LO_USA0068898	LO_USA0068916	A.D. Pomogailo et al., Macromolecular Metal Carboxylates and Their Nanocomposites, 139 Springer Series in Materials Sci. 7 (2010) ("Pomogailo")	H; FO
3888	1964	LO_USA0068934	LO_USA0068937	Basil Dmuchovsky et al., The Mechanism of the Base-Catalyzed Addition of Thiols to Maleic Anhydride, 86 J. Am. Chem. Soc. 2874 (1964)	H; FO
3889	1/11/1989	LO_USA0068938	LO_USA0068948	European Patent Application Pub. No. 298684 ("Suita-Mangano")	H; FO
3890	2009	LO_USA0069072	LO_USA0069393	John Halal, Hair Structure and Chemistry Simplified (Cengage Learning 5th ed. 2009) ("Halal")	H
3891	9/18/2018	LO_USA0069563	LO_USA0069581	U.S. Patent No. 10,076,478	H; FO
3892	9/8/2005	LO_USA0069806	LO_USA0069822	U.S. Patent Application Pub. No. US 2005/0193501 ("Chan")	H
3893	3/20/2008	LO_USA0069937	LO_USA0070010	U.S. Patent Application Pub. No. US 2008/0066773 ("Anderson")	H
3894	2/2/2012	LO_USA0070176	LO_USA0070191	U.S. Patent Application Pub. No. US 2012/0024309A1 ("Pratt")	H
3895	7/19/2012	LO_USA0070192	LO_USA0070212	U.S. Patent Application Pub. No. 2012/0180807 ("Flohr")	H
3896	11/19/2015	LO_USA0070394	LO_USA0070410	U.S. Application Pub. No. 2015/0328102	
3897	8/6/1685	LO_USA0070573	LO_USA0070578	U.S. Patent No. 4,532,950 ("Lang")	H
3898	10/15/1996	LO_USA0070646	LO_USA0070660	U.S. Patent No. 5,565,216 ("Cowsar")	H
3899	5/11/2004	LO_USA0070761	LO_USA0070772	U.S. Patent No. 6,732,744 ("Olshavsky")	H
3900	7/13/2010	LO_USA0070877	LO_USA0070895	U.S. Patent No. 7,754,794 ("Chen")	H
3901	11/22/2016	LO_USA0071020	LO_USA0071035	U.S. Patent No. 9,498,419 ("419 patent")	No Objection
3902	6/6/2017	LO_USA0071036	LO_USA0071054	U.S. Patent No. 9,668,954	No Objection
3903				Intentionally Left Blank	N/A
3904	8/7/2014	LO_USA0071854	LO_USA0071872	International Patent Application Pub. No. WO 2014/118212 ("Burchbuckler")	H; REL
3905	1999	LO_USA0071995	LO_USA0072002	Charles Q. Yang & Yun Lu, In-situ Polymerization of Maleic Acid and Itaconic Acid and Crosslinking of Cotton Fabric, 69(10) Textile Res. J. 782 (1999) ("Yang I")	H, REL

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3906	12/8/2019	LO_USA0072073	LO_USA0072075	December 8, 2016 IPWatchdog article by Steve Brachman	H; FO; REL
3907	11/23/2016	LO_USA0072076	LO_USA0072080	November 23, 2016, MarketWatch article by Nick Kostov	H; FO; REL
3908	11/24/2016	LO_USA0072085-L-91	LO_USA0072085-L-91	November 24, 2016, Cosmopolitan article by Victoria Jowett	H; FO; REL
3909	11/28/2016	LO_USA0072092	LO_USA0072098	November 28, 2016, cosmeticsbuisness.com article, "Olaplex sues L'Oréal over 'slavish knockoffs,'"	H; FO; REL
3910	11/2/2018	LO_USA0072124	LO_USA0072127	Copy of Olaplex website	H; FO; CP
3911	6/23/2015	LO_USA0072749	LO_USA0072749	Email from R. Dolden to H. Kunetx RE Olivia BP Approval	H; FO
3912	4/14/2015	LO_USA0072807	LO_USA0072810	FW OLAPLEX Tested Again.msg	No Objection
3913	10/8/2015	LO_USA0072813	LO_USA0072814	Fwd Olaplex .msg	H; FO
3914	9/8/2016	LO_USA0073912	LO_USA0073914	Email from C. Gebhart to M. Glenn, dated September 8, 2016	H; FO
3915	5/18/2015	LO_USA0074040	LO_USA0074045	Confidentiality Agreement executed by L'Oreal and Olaplex	403 (cumulative)
3916	4/14/2015	LO_USA0074100	LO_USA0074103	FW OLAPLEX Tested Again.msg	403 (cumulative, see, e.g., TX 3912)
3917	8/19/2016	LO_USA0074261	LO_USA0074263	Olaplex's and its "idonthairyou" posts on social media	H; FO; AU; CP
3918	12/18/2018	LO_USA0074925	LO_USA0074934	Contract Research Services Report on Anti-Breakage Assessment of Bleach Formulations, dated March 20, 2015	No Objection
3919	1977	LO_USA0075041	LO_USA0075259	Chemistry of Natural Protein Fibers (R. S. Asquith ed.) ("Asquith") (1977)	H; FO
3920	12/21/2018	LO_USA0075270	LO_USA0075301	Citraconic Acid, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/Citraconic_acid id ("NCBI - Citraconic Acid")	H; FO

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3921	2010	LO_USA0075302	LO_USA0075335	Charles E. Hoyle et al., Thiol-click chemistry: a multifaceted toolbox for small molecule and polymer synthesis, 39 Chem. Soc. Rev. 1355 (2010) ("Hoyle")	H, REL
3922	2010	LO_USA0075336	LO_USA0075352	Trefor A. Evans et al., A statistical analysis of hair breakage. II. Repeated grooming experiments, 61 J. Cosmet. Sci. 439 (2010) ("Evans")	H; FO
3923	2012	LO_USA0075405	LO_USA0075411	Pierangelo Gobbo & Mark S. Workentin, Improved Methodology for the Preparation of Water-Soluble Maleimide-Functionalized Small Gold Nanoparticles, Langmuir, 12357-63 (2012) ("Gobbo")	H; FO
3924	2009	LO_USA0075412	LO_USA0075421	Hans-Martin Haake et al., Hair Breakage—How to measure and counteract, 60 J. Cosmet. Sci. 143 (2009)	DIS; FO; REL; 403
3925	7/3/2008	LO_USA0075701	LO_USA0075702	Japanese Unexamined Patent Application Pub. No. JP 2008-150308 ("Watanabe 308") with translation	H
3926	12/21/2018	LO_USA0075720	LO_USA0075742	Maleamic Acid, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/5280451	H; FO
3927	2012	LO_USA0075743	LO_USA0075745	BM(PEG)2 and BM(PEG)3, ThermoScientific Instructions ("ThermoScientific Instructions")	H; FO
3928	1976	LO_USA0075761	LO_USA0075771	V.N.E. Robinson, A study of damaged hair, 27 J. Soc. Cosmet. Chem. 155 (1976) ("Robinson")	H; FO
3929	4/19/1960	LO_USA0075780	LO_USA0075787	U.S. Patent No. 2,933,365 ("Moore")	H
3930		LO_USA0075976	LO_USA0075976	L'Oreal USA Sales Revenue Spreadsheet	H, FO
3931	7/29/2016	OLA_0000016580	OLA_0000016580	Email from G. Auer to D. Christal and J. Schwartz, dated July 29, 2016	No Objection
3932		OLA_0000000306	OLA_0000001680	Prosecution History for U.S. Patent No. 9,668,954 (15/415,464)	No Objection
3933	2015	OLA_0000003173	OLA_0000003180	Labmuffin 2015 How Does OLAplex Hair Treatment Work.PDF	403; H; BE
3934	8/16/2015	OLA_00000064224	OLA_00000064224	Email from J. Schwartz to S. Lim, dated August 16, 2015	mistates bates range; No Objection

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3935	8/21/2015	OLA_00000073810	OLA_00000073810	Email from J. Schwartz to S. Orzel, dated August 21, 2015	No Objection
3936				Intentionally Left Blank	
3937		OLA_0000008436	OLA_0000009384	Prosecution History for U.S. Patent No. 9,498,419 (15/087,415)	No Objection
3938				Intentionally Left Blank	N/A
3939				Intentionally Left Blank	N/A
3940				Intentionally Left Blank	N/A
3941				Intentionally Left Blank	N/A
3942				Intentionally Left Blank	N/A
3943				Intentionally Left Blank	N/A
3944				Intentionally Left Blank	N/A
3945	10/6/2015	OLA_0000014324	OLA_0000014325	Email from Evanice Holz to Jeff Schwartz dated 10-6-2015; subject RE: ET Response to 'The Photo'	REL; MIL; 403
3946	10/3/2015	OLA_0000014328	OLA_0000014328	Email from J. Alexander to D. Christal, D. Christal, and E. Pressley re: Maleic Message	REL; MIL; 403
3947	8/11/2015	OLA_0000014459	OLA_0000014460	Email from G. McKovich to D. Christal, dated August 11, 2015	REL; MIL; 403
3948	7/13/2015	OLA_0000014569	OLA_0000014572	Safety Data Sheet Sexyhair Bond Maker	H; FO; REL
3949	5/19/2014	OLA_0000014656	OLA_0000014656	Email from D. Christal to M. Rector-Gable, dated May 19, 2014, Letter of Intent	Misstated Bates-stamp range; H; FO; REL
3950	April	OLA_0000014826	OLA_0000014828	Email from M. Rector-Gable to D. Christal, dated April 24, 2015 Re: Bond Builder	H; FO; REL; MIL; 403
3951	4/3/2015	OLA_0000014921	OLA_0000014924	Email from A. McDonald to D. Christal and D. Christal, dated April 3, 2015 re: Olaplex Contact Form Brittany	H; REL; FO
3952	3/19/2015	OLA_0000015004	OLA_0000015007	Email from J. Alexander to martine@olaplex.com et al.; subject Fwd: OLAPLEX Tested Again	H; REL; FO
3953	3/21/2015	OLA_0000015008 OLA_00001106944	OLA_0000015008 OLA_00001106958	Email from E. Holz to D. Christal dated 3-21-2015; subject: Re: ABCH Article Screenshots, with attachments	REL; FO; 403; MIL
3954		OLA_0000015193	OLA_0000015197	Olaplex FAQ	REL; FO

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3955	8/7/2014	OLA_0000015425	OLA_0000015463	Email from B. Le Poer Trench to dean@olaplex.com dated 8/7/2014; subject: Re: Allure Magazine - Olaplex Bond Multiplier (June 2014)	REL; FO; H; MIL; 403
3956		OLA_0000015551	OLA_0000015551	Olaplex Bond Multiplier No. 1 Labeling	CP
3957	May	OLA_0000015590	OLA_0000015592	Email from D. Christal to A. Owens, dated May 8, 2014	REL; FO; MIL
3958		OLA_0000015614	OLA_0000015614	Email from D. Christal to Bertrand	REL; FO; MIL; 403; CP
3959	6/28/2016	OLA_0000015823	OLA_0000015823	Email from D. Christal to E. Pressly, dated June 28, 2016	REL; FO; MIL; 403; CP
3960	October	OLA_0000015874	OLA_0000015875	Email from D. Christal to A. Dodds, and J. Schwartz, dated October 1, 2015 Re: Olaplex a Readers Choice Award Winner	REL; H; MIL; CP
3961	August	OLA_0000016004	OLA_0000016007	Email from D. Christal to S. Lim, dated August 4, 2015 Re: Modern Salon Answers - Time Sensitive please review	REL; H; MIL; CP; 403
3962	7/23/2015	OLA_0000016031	OLA_0000016031	Email form D. Christal to J. Franklin, dated July 23, 2015	REL; H; MIL; 403
3963	6/16/2015	OLA_0000016098	OLA_0000016099	Email from D. Christal to Andre Nizetich; subject: Olaplex Coupon with attachment	REL; CP; MIL
3964	5/7/2015	OLA_0000016130	OLA_0000016134	Email from T. Katz to D. Christal dated May 7, 2015, Subject: Plan of attack, with attachment: Short-term and long-term approach to responding to the shortfall in social media coverage	REL; CP; MIL; H; 403
3965	3/20/2015	OLA_0000016147	OLA_0000016150	Email from D. Christal to J. Alexander Re: Olaplex Tested Again	REL; CP; MIL; 403
3966	9/27/2014	OLA_0000016360	OLA_0000016363	Email from D. Christal to A. Nizetich, dated September 27, 2014	REL; H; MIL; 403
3967	9/24/2014	OLA_0000016368	OLA_0000016369	Email from D. Christal to Andre Nizetich Re: Olaplex/ABCH	REL; H; MIL; 403; CP
3968		OLA_0000016831	OLA_0000016831	Olaplex Advertisement "Never Break a Client's Hair"	REL; MIL; 403; CP
3969	9/27/2014	OLA_0000017548	OLA_0000017551	Email from Andre Nizetich to D. Christal FWD: ABCH Reports OLAPLEX is the Real Deal	REL; MIL; 403; CP; H

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3970	9/23/2014	OLA_0000017552	OLA_0000017561	Email from Mike Nave to Dean Christal RE: FW: Sarasota Exam Results and Olaplex Results	REL; MIL; 403; H
3971	1995	OLA_0000017664	OLA_0000017670	Degradation of Phenol and Salicylic Acid by Ultraviolet Radiation/Hydrogen Peroxide/Oxygen, Wa. Res. Vol. 29, No. 10, pp. 2346-2353, 1995	REL; H; FO
3972				Intentionally Left Blank	
3973		OLA_0000017798	OLA_0000017803	LIQ 103 - Proposed Amendments to Claims	CP; FO
3974		OLA_0000017804	OLA_0000017804	Untitled attachment	DIS; Misstated Bates-stamp range
3975		OLA_0000017805	OLA_0000017812	LIQ 103 PCT - Proposed Claim Amendments	CP; FO
3976	8/23/2015	OLA_0000017813	OLA_0000017813	Email thread between C. Hawker to E. Pressly	REL; CP; FO; H
3977	6/22/2015	OLA_0000017814	OLA_0000017814	Email from E. Pressly to C. Hawker; subject: Can you take a look before we meet tomorrow?	CP; FO
3978		OLA_0000017815	OLA_0000017820	LIQ 100 CIP CON - Proposed Kit Claims for New Continuation Application attachment	CP; FO
3979	9/16/2015	OLA_0000017821	OLA_0000017821	Email from E. Pressly to J. Alexander Re: N-Acetylcysteine	CP; FO
3980	3/11/1997	OLA_0000017822	OLA_0000017826	U.S. Patent No. 5,609,860 to Tabata et al.	H
3981	9/16/2015	OLA_0000017827	OLA_0000017827	Email from J. Alexander to E. Pressly	REL; CP; H; FO
3982	May	OLA_0000017828	OLA_0000017830	Email from E. Pressly to D. Christal, dated May 18, 2015, attaching Olivia Illustrative Discussion Points	CP
3983	5/18/2015	OLA_0000017828	OLA_0000017830	Email from E. Pressly to D. Christal Re: Meeting questions referencing Attachments Olivia Illustrative Discussion Points.docx	CP
3984	9/16/2015	OLA_0000017831	OLA_0000017844	Email from E. Pressly to J. Alexander Re: N-Acetyl Cysteine	REL
3985	3/12/2015	OLA_0000017845	OLA_0000017845	Email from E. Pressly to C. Hawker Re: Patent look	CP; REL
3986		OLA_0000017846	OLA_0000017850	Draft claims	CP; REL; FO
3987	3/12/2015	OLA_0000017851	OLA_0000017851	Email from C. Hawker to E. Pressly	CP; REL; FO
3988		OLA_0000018415	OLA_0000018415	Image of Olaplex Logo with company address	Misstated Bates-stamp range; DIS
3989	4/9/2015	OLA_0000018689	OLA_0000018690	Email from E. Holz to E. Holz attaching ScreenShot 2015-04-09 at 12.47.27 PM	REL; FO; MIL

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3990	3/21/2015	OLA_0000018698	OLA_0000018698	Email from E. Holz to Sara Lim FWD: ABCH Article Screenshots	REL; 403; MIL
3991	4/27/2015	OLA_0000018705	OLA_0000018117	Email from E. Holz to T. Katz, dated April 27, 2015, attaching Olaplex April Social.key; International Social Media Manager, Fake IG Accounts.	REL; 403; MIL
3992				Intentionally Left Blank	N/A
3993	4/21/2015	OLA_0000020107	OLA_0000020107	Email from J. Franklin to J. Schwartz, dated August 21, 2015	REL; H; MIL; FO; CP
3994	10/17/2016	OLA_0000020645	OLA_0000020645	Email from J. Schwartz to J. Iturralde, B. Mouton, and J. Franklin, dated October 17, 2016	REL; FO; CP
3995	8/18/2016	OLA_0000020652	OLA_0000020652	Email from J. Schwartz to J. Franklin, dated August 18, 2016	REL; FO; MIL; CP
3996	1/16/2016	OLA_0000021092	OLA_0000021093	Email from J. Schwartz to S. Gaspard, dated January 16, 2016	REL; MIL; H
3997	1/15/2016	OLA_0000022907	OLA_0000022917	Email from J. Alexander to J. Santy, dated January 15, 2016	REL; MIL; FO; 403
3998	7/16/2015	OLA_0000023002	OLA_0000023004	Email from J. Alexander to D. Tobojka, dated July 16, 2015	REL; MIL; FO; 403
3999	April	OLA_0000023067	OLA_0000023067	Email from J. Alexander to J. Teyke, dated April 3, 2015	REL; CP
4000	3/19/2015	OLA_0000023069	OLA_0000023069	Email from J. Alexander to anb@olaplex.com FWD Revised: Olaplex USA Distributors	REL; MIL
4001	3/31/2015	OLA_0000023070	OLA_0000023070	Email from J. Alexander to Pannos Salon, dated March 31, 2015	REL; CP
4002	8/16/2015	OLA_0000023925	OLA_0000023998	Email from Kimberly@olaplex.com to Martine@olaplex.com, dated August 16, 2015 re: perms	Misstates Bates-stamp range;
4003	9/28/2014	OLA_0000024530	OLA_0000024532	Email from D. Christal to exam@haircolorist.com Re: ABCH Reports OLAPLEX is the Real Deal	REL; MIL; H
4004	8/18/2014	OLA_0000024542	OLA_0000024544	Email from D. Christal to D. Christal, dated August 18, 2014, attaching article from BTC "On Paper"	REL; H; FO
4005	11/23/2016	OLA_0000024724	OLA_0000024726	Email from D. Christal to Greg Auer Re: OU Post and Article as JPEG	MIL; REL; FO
4006	11/23/2016	OLA_0000024727	OLA_0000024728	Email from Dean Christal to Greg Auer Re: OU v 3	MIL; REL; FO

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4007	11/23/2016	OLA_0000024729	OLA_0000024734	Email from D. Christal to J. Schwartz, dated 11/13/2016	REL; MIL; H; FO; 403
4008	10/1/2015	OLA_0000025490	OLA_0000025494	Email from D. Christal to S. Orzel, dated October 1, 2015	REL; MIL; H
4009		OLA_0000025952	OLA_0000025955	Mutual Non-Disclosure Agreement	Q
4010				Intentionally Left Blank	
4011	8/29/2014	OLA_0000039172	OLA_0000039256	U.S Application No. 62/000,340	REL; FO
4012	4/13/2015	OLA_0000045754	OLA_0000045761	Website Screen shot How Does Olaplex Hair Treatment Work? From www.labmuffin.com	REL; FO
4013	9/14/2016	OLA_0000049937	OLA_0000049970	PCT/US2015/031166 Preliminary Report on Patentability	REL; FO
4014	7/4/2016	OLA_0000052855	OLA_0000052877	Letter from Bereskin & Parr to Candadian IPO dated 7/4/2016 Re: CA Application No. 2.916,985 Voluntary Amendment to the application	REL; FO; H
4015	7/23/2013	OLA_0000063665	OLA_0000063665	Email from J. Santy to D. Christal, dated July 23, 2013	REL
4016	7/17/2013	OLA_0000063666	OLA_0000063666	Email from D. Christal to J. Santy, dated July 17, 2013	REL; H
4017	7/19/2013	OLA_0000063670	OLA_0000063670	Email from D. Christal to J. Santy, dated July 19, 2013	REL; H
4018	7/17/2013	OLA_0000063673	OLA_0000063673	Email from D. Christal to J. Santy, dated July 17, 2013	REL
4019	10/15/2013	OLA_0000063742	OLA_0000063742	Email from D. Christal to J. Morehouse and J. Santy, dated October 15, 2013	CP; REL; H
4020	10/28/2013	OLA_0000063744	OLA_0000063744	Email from D. Christal, dated October 28, 2013	REL; CP
4021		OLA_0000063757	OLA_0000063760	Olaplex Technical Fast Facts	FO; CP; H
4022	11/28/2016	OLA_0000063922	OLA_0000063949	November 28, 2016 cosmeticsdesign.com article by Deanna Utroske	Misstates Bates-stamp range; H; REL; FO
4023	2/2/2017	OLA_0000064043	OLA_0000064043	Email from Steve Orzel to Jeff Schwartz Re: Amika	REL; H
4024	10/13/2016	OLA_0000064211	OLA_0000064212	Email from Jeff Schwartz to Darcy Christal Re: Olaplex Contact Form - Jan Grozowski	MIL; REL; 403
4025	1/16/2016	OLA_0000065017	OLA_0000065017	Email from Jeff Schwartz to Stacy Gaspard et al. Re Dennis Bernard Olaplex Knock-off 4Plex	MIL; REL
4026	1/16/2016	OLA_0000065019	OLA_0000065019	Email from S. Gaspard to J. Schwartz, dated January 16, 2016	REL; MIL
4027	6/27/2018	OLA_0000065453	OLA_0000065504	PGR2017-00012 (Paper 102) - FINAL WRITTEN DECISION	H, MIL, REL, 403

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4028	8/29/2017	OLA_0000065505	OLA_0000065518	PGR2017-00012 (Paper 27) - Patent Owner's Motion for Additional Discovery (37 C.F.R. 42.51(b)(2) and 42.224)	H, MIL, REL
4029	9/27/2017	OLA_0000065519	OLA_0000065533	PGR2017-00012 (Paper 37) - Conduct of the Proceeding	MIL, REL
4030	10/20/2017	OLA_0000065534	OLA_0000065545	PGR2017-00012 (Paper 44) - CONFIDENTIAL LIQWD PATENT OWNER RESPONSE	H, MIL, REL
4031	1/26/2018	OLA_0000065646	OLA_0000065677	PGR2017-00012 (Paper 55) - PETITIONERS REPLY TO PATENT OWNERS RESPONSE	H, MIL, REL
4032	3/20/2018	OLA_0000065678	OLA_0000065697	PGR2017-00012 (Paper (70) - Patent Owner's Motion for Observations on Cross-Examination	H, MIL, REL
4033	3/20/2018	OLA_0000065698	OLA_0000065720	PGR2017-00012 (Paper 72) - Patent Owner's Motion to Exclude Petitioner's Evidence	H, MIL, REL
4034	3/27/2018	OLA_0000065721	OLA_0000065737	PGR2017-00012 (Paper 77) - Patent Owner's Corrected Motion for Observations on Cross-Examination	H, MIL, REL
4035	3/27/2018	OLA_0000065738	OLA_0000065754	PGR2017-00012 (Paper 80) - Petitioner's Opposition to Patent Owner's Motion to Exclude Evidence	H, MIL, REL
4036	4/3/2018	OLA_0000065755	OLA_0000065762	PGR2017-00012 (Paper 85) - Patent Owner's Reply In Support of its Motion to Exclude Evidence	H, MIL, REL
4037	4/3/2018	OLA_0000065763	OLA_0000065777	PGR2017-00012 (Paper 86) - PETITIONERS RESPONSE TO PATENT OWNERS CORRECTED MOTION FOR OBSERVATIONS	H, MIL, REL
4038	1/11/2018	OLA_0000065784	OLA_0000065951	PGR2017-00012 (Exhibit 1027) - Pressly Deposition	H, MIL
4039	1/12/2018	OLA_0000065952	OLA_0000066072	PGR2017-00012 (Exhibit 1028) - Christal Declaration	H, MIL
4040	7/24/2014	OLA_0000066073	OLA_0000066250	PGR2017-00012 (Exhibit 1036) - Lab Notebook L11363 (Hamilton 1)	BE, CP, H, MIL, REL, 403
4041	1/26/2018	OLA_0000066251	OLA_0000066257	PGR2017-00012 (Exhibit 1041) - Declaration of Melanie Crim	H, MIL
4042	8/29/2017	OLA_0000066258	OLA_0000066262	PGR2017-00012 (Exhibit 2010) - Patent Owners Discovery Requests to Petitioner	H, MIL, REL

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4043	8/29/2017	OLA_0000066263	OLA_0000066274	PGR2017-00012 (Exhibit 2012) - E-mail dated May 13, 2015 from Roger Dolden (Executive Vice President for L'Oral USA, Inc.) to Dean Christal (CEO of Liqwd, Inc.) regarding Project Olivia	M, BE
4044	10/19/2017	OLA_0000066275	OLA_0000066280	Declaration of Eric D. Pressly, Ph.D. in PGR2017-00012, dated October 19, 2017	H, MIL
4045	10/19/2017	OLA_0000066275	OLA_0000066280	PGR2017-00012 (Exhibit 2022) - Eric Pressly Declaration	H, MIL
4046	10/18/2017	OLA_0000066281	OLA_0000066287	Declaration of Dean Christal in PGR2017-00012, dated October 18, 2017	H
4047	10/18/2017	OLA_0000066281	OLA_0000066287	PGR2017-00012 (Exhibit 2023) - Dean Christal Declaration	H, MIL
4048	10/20/2017	OLA_0000066288	OLA_0000066414	PGR2017-00012 (Exhibit 2025) - Edward Borish Declaration	H, MIL
4049	7/20/2016	OLA_0000066415	OLA_0000066418	PGR2017-00012 (Exhibit 2038) - Dye Impact Study dated July 20, 2016	MIL
4050	7/22/2016	OLA_0000066419	OLA_0000066421	PGR2017-00012 (Exhibit 2039) - Impact of Dyes in Bonding Additive P4, dated June 21, 2016	MIL
4051	5/22/2017	OLA_0000066422	OLA_0000066448	PGR2017-00012 (Exhibit 2040) - Dreher 30b6 Deposition Excerpts 20170522	H, MIL
4052	3/6/2018	OLA_0000066449	OLA_0000066528	PGR2017-00012 (Exhibit 2056) - Crim deposition	H, MIL
4053	9/19/2017	OLA_0000066529	OLA_0000066531	PGR2017-00012 (Exhibit 3001) -	MIL, REL
4054	2/1/2018	OLA_0000066835	OLA_0000066937	PGR2018-00025 (Paper 3) - PETITION FOR POST-GRANT REVIEW OF U.S. PATENT 9,668,954	H, MIL, REL, 403
4055	7/24/2014	OLA_0000066938	OLA_0000067115	PGR2018-00025 (Exhibit 1036) - Lab Notebook L11363 (Hamilton 1)	BE, CP, H, MIL, REL, 403
4056	1/26/2018	OLA_0000067116	OLA_0000067122	PGR2018-00025 (Exhibit 1037) - Declaration of Melanie Crim	H, MIL
4057	8/9/2018	OLA_0000067123	OLA_0000067128	PGR2018-00025 (Paper 11) -Denying-In-Part and Granting-In-Part Petitioner's Motion to Seal and For Protective Order 35 U.S.C. sec. 326; 37 C.F.R. secs. 42.14, 42.54	H, MIL, REL
4058	5/21/2018	OLA_0000067129	OLA_0000067187	PGR2018-00025 (Paper 9) -Patent Owner Liqwd's Preliminary Response under 37 CFR 42.207	H, MIL, REL

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4059	8/10/2018	OLA_0000067188	OLA_0000067225	PGR2018-00025 (Paper 12) -Decision Institution of Post-Grant Review	H, MIL, REL, 403
4060	8/10/2018	OLA_0000067226	OLA_0000067232	PGR2018-00025 (Paper 13) -Scheduling Order	MIL, REL
4061		OLA_0000067542	OLA_0000067542	Website screenshot Color Cut & Style Connection Center, Olaplex	H; REL; 403; MIL
4062	8/17/2016	OLA_0000067900	OLA_0000067900	Email from D. Christal to D. Christal re: Norman Ingraham, dated August 17, 2016	H; REL; 403
4063	8/21/2015	OLA_0000073811	OLA_0000073811	Email from Jeff Schwartz to Franklin Jill Re FHI Olaplex Knockoff	REL; 403; MIL
4064		OLA_0000075801	OLA_0000075801	Olaplex's Sales and Gross Profit (Excel)	REL; 403; MIL
4065	10/12/2016	OLA_0000077606	OLA_0000077613	Email form T. Walden to D. Christal and D. Christal, dated October 12, 2016, attaching Olaplex VP of Education	REL
4066	10/1/2015	OLA_0000078461	OLA_0000078461	Email from Steve Orzel to Jeff Schwartz Re: Oalplex Knock Off	REL; 403; MIL; H
4067	1/20/2015	OLA_0000080102	OLA_0000080146	Email from T. Ryan to D. Christal, dated January 20, 2015, attaching JettMG - Deck - Capabilities Oct2014, SMM_Proposal_Olaplex, and Schwarzkopf Professional Canada Audit V6	REL; H
4068	10/1/2015	OLA_0000081100	OLA_0000081100	Email from D. Christal to S. Orzel, dated October 1, 2015 re: Olaplex Knock Off	REL; 403; MIL; H
4069	8/21/2015	OLA_0000087093	OLA_0000087093	Email from S. Orzel to J. Schwartz, dated August 21, 2015 re: FHI Olaplex Knock off	REL; 403; MIL; H
4070	4/24/2015	OLA_0000088089	OLA_0000088092	Email from M. Spinks to J. Schwartz, dated April 24, 2015, attaching Tom re: Olaplex letter	REL; 403; H
4071	4/20/2015	OLA_0000092270	OLA_0000092272	Email from J. Schwartz to M. Spinks, dated April 20, 2015 re: resending from origial date sent 4/09/2015	REL; H; 403
4072	5/21/2015	OLA_0000095960	OLA_0000095975	Email from R. Dolden to V. buehler, M. Gringauze, D. Hernand, and R. Dolden, dated May 21, 2015 re: L'O - confidentiality Agreement	CP; 403; H
4073	5/19/2015	OLA_0000095976	OLA_0000095989	Email from D. Hernand to M. Gringauz, V. Buehler, and R. Dolden, dated May 19, 2015 re: L'O - confidentiality Agreement	CP; 403; H

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4074	5/19/2015	OLA_0000096058	OLA_0000096064	Email from M. Gringauz to V. Buehler, D. Hernand, and R. Dolden, dated May 19, 2015 re: L'O - confidentiality Agreement	CP; 403; H
4075	5/18/2015	OLA_0000096132	OLA_0000096149	Email from V. Buehler to D. Hernand, M. Gringauz, and R. Dolden, dated May 18, 2015 re: L'O - confidentiality Agreement	CP; 403; H
4076	5/15/2015	OLA_0000096150	OLA_0000096154	Email from M. Gringauz to D. Hernand, V. Buehler, and R. Dolden, dated May 15, 2015 re: L'O - confidentiality Agreement	CP; 403; H
4077	5/19/2015	OLA_0000096181	OLA_0000096195	Email from M. Gringauz to V. Buehler, D. Hernand, and R. Dolden, dated May 19, 2015 re: L'O - confidentiality Agreement	CP; 403; H
4078	8/30/2016	OLA_0000097142	OLA_0000097142	Email from D. Christal to P. Signori, dated August 30, 2016 re: Loreal smart bond	REL; 403; H
4079	8/30/2016	OLA_0000097208	OLA_0000097208	Email from D. Christal to P. Signori, dated August 30, 2016 re: Loreal smart bond	REL; 403; H
4080	10/24/2016	OLA_0000097503	OLA_0000097503	Email from T. Walden to D. Christal re: olaplex Sales for 2016 - Units and Dollars	CP; 403
4081		OLA_0000097544	OLA_0000097548	Email from T. Walden to J. Schwarts and D. Christal re: Gebhart	REL; H; 403; CP
4082	2/3/2017	OLA_0000098873	OLA_0000099049	Deposition of Dean Christal, taken in Behind the Chair.com litigation, dated February 3, 2017	REL; 403; MIL
4083	8/24/2014	OLA_0000100044	OLA_0000100044	Email from M. Rector-Gable to D. Christal, dated August 24, 2014 Re: Consulting Services Agreement	REL; 403; MIL; H
4084		OLA_0000100045	OLA_0000100051	Consulting Agreement between BehindTheChair.com and Olaplex LLC, marked at the deposition of Mary Rector-Gable in the Behind the Chair litigation	REL; 403; MIL; H
4085	4/22/2014	OLA_0000100052	OLA_0000100053	Email from D. Christal to M. Rector-Gable, dated April 22, 2014, re: Wednesday, 23rd - Beverly Hills, marked at the deposition of Mary Rector-Gable in the Behind the Chair litigation	REL; 403; MIL; H

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4086	5/12/2014	OLA_0000100182	OLA_0000100182	Email from D. Christal to M. Rector-Gable, dated May 12, 2014, re: Olaplex, marked at the deposition of Dean Christal in the Behind the Chair litigation	REL; 403; MIL; H
4087		OLA_0000100191	OLA_0000100196	behindthechair.com color issue, marked at the deposition of D. Chirstal in the Behind the Chair litigaiton	REL; 403; MIL; H
4088	4/9/2014	OLA_0000100380	OLA_0000100389	Email from M. Rector-Gable to D. Schmidtbauer, dated April 9, 2014, marked at the deposition of Dan Schmidtbaer in the Behind the Chair litigation	REL; 403; MIL; H
4089	2/15/2014	OLA_0000100395	OLA_0000100396	Email from D. Christal to T. Cunningham, dated February 15, 2014, marked at the deposition of Tracey Cunningham in the Behind the Chair litigation	REL; 403; MIL; H
4090	3/4/2014	OLA_0000100397	OLA_0000100580	Text messages between D. Christal and T. Cunningham, marked at the deposition of Tracey Cunningham in the Behind the Chair litigation	REL; 403; MIL; H
4091				Intentionally Left Blank	N/A
4092	1/3/2015	OLA_0000100449	OLA_0000100449	Text Messages between D. Christal and S. Lim	Misstates Bates-stamp range
4093	3/23/2014	OLA_0000100471	OLA_0000100473	Email from D. Christal to T. Cunningham, dated March 23, 2014, re: He still keeps communicating, marked at the deposition of Tracey Cunningham in the Behind the Chair litigation	REL; 403; MIL; H
4094	3/10/2014	OLA_0000100474	OLA_0000100475	Email from D. Christal to A. Dodds, dated March 10, 2014, re:Beauty Launchpad Magazine, marked at the deposition of Tracey Cunningham in the Behind the Chair litigation	REL; 403; MIL; H
4095	8/8/2014	OLA_0000100504	OLA_0000100504	Email from B. Le Poer Trench to D. Christal, dated August 8, 2014, re: Colorist feedback, marked at the deposition of Tracey Cunningham in the Behind the Chair litigation	REL; 403; MIL; H
4096	8/10/2014	OLA_0000100506	OLA_0000100506	Email from B. Trench to T. Cunningham, dated August 10, 2014 re: Allure Quote Approval, marked at the deposition of Tracy Cunningham in the Behind the Chair litigation	REL; 403; MIL; H

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4097	10/21/2014	OLA_0000100512	OLA_0000100513	Email from D. Christal to T. Cunningham, dated October 21, 2014, re: Olaplex agreement, marked at the deposition of Tracey Cunningham in the Behind the Chair litigation	REL; 403; MIL; H
4098	10/6/2014	OLA_0000100560	OLA_0000100561	Email from C. Hawker to D. Christal and E. Pressly, dated October 6, 2014 re: Serendipity	REL; 403; H
4099	6/25/2014	OLA_0000100644	OLA_0000100646	Email from M. Rector-Gable to L. Zehil, dated June 25, 2014 re: LLC, marked at the deposition of L. Zehil in the Behind the Chair litigation	REL; 403; MIL; H
4100	8/21/2014	OLA_0000100674	OLA_0000100676	Email from L. Zehill to M. Rector-Gable, dated August 21, 2014, re: Olaplex Agreement, marked at the deposition of Louis Zehill in the Behind the Chair litigation	REL; 403; MIL; H
4101	8/8/2014	OLA_0000100729	OLA_0000100729	Email from D. Christal to B. Le Poer Trench, dated August 8, 2014, re Colorist feedback, marked at the deposition of Dean Christal in the Behind the Chair litigation	REL; 403; MIL; H
4102	10/14/2015	OLA_0000100761	OLA_0000100785	Defendant Dean Christal's Objections and Responses to Plaintiff BehindtheChair.com, Inc.'s Form Interrogatories, marked at the deposition of D. Christal in the Behind the Chair litigation	REL; 403; MIL; H
4103	4/28/2014	OLA_0000100793	OLA_0000100897	Email from K. Cote-Favaro to Sales@liqwd.com, dated April 28, 2014, re: It's a Small World After All... but not at BTC at Premier Orlando!, marked at the deposition of D. Christal in the Behind the Chair litigation	REL; 403; MIL; H
4104	4/6/2017	OLA_0000101054	OLA_0000101079	Declaration of C. Steven Baker in Support of Defendants' Motion for Summary Judgment in Behind the Chair litigation	REL; 403; MIL; H
4105	1/8/2016	OLA_0000101080	OLA_0000101084	Behind the Chair articles, marked at the deposition of Kronenberger in the Behind the Chair litigation	REL; 403; MIL; H
4106	6/9/2017	OLA_0000101237	OLA_0000101287	Expert Report of Dr. Larry Chiagouris, marked at the deposition of M Chiagouris in the Behind the Chair litigation	REL; 403; MIL; H

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4107	2/23/2015	OLA_0000101334	OLA_0000101634	Deposition of Mary Rector-Gable, taken in the Behind the Chair litigation	REL; 403; MIL; H
4108	6/19/2015	OLA_0000101635	OLA_0000101910	Deposition of Dean Christal, dated June 19, 2015, taken in the Behind the Chair litigation	REL; 403; MIL; H
4109	12/13/2016	OLA_0000102148	OLA_0000102375	Deposition of Tracey Cunningham, dated December 13, 2016, in the Behind the Chair Litigation	REL; 403; MIL; H
4110	8/20/2014	OLA_0000102717	OLA_0000102717	Email from D. Christal to M. Rector-Gable, dated August 20, 2014	REL; 403; MIL
4111	May	OLA_0000103529	OLA_0000103530	Mary Rector-Gable, This Could (and Will) Change Everything, Behindthechair.com, May 2014, at 30	REL; 403; MIL; CP
4112		OLA_0000104351	OLA_0000104354	HAIR FORUMS Spreadsheet	REL; 403; MIL; CP
4113		OLA_0000104355	OLA_0000104355	Burner Accounts Spreadsheet	REL; 403; MIL; CP
4114		OLA_0000104355	OLA_0000104360	HAIR FORUMS Spreadsheet	REL; 403; MIL; CP
4115	9/18/2015	OLA_0000106408	OLA_0000106408	Email from Dean Christal to Ab McDonald Re: Dead forums or problem with forums assigned to me	REL; 403; MIL
4116	3/9/2015	OLA_0000106917	OLA_0000106924	Email from E. Holz to D. Christal and D. Christal, dated March 9, 2015, attaching Hair Forums, Att123964, Hair Forums.numbers, and ATT123967	REL; 403; MIL
4117	8/30/2016	OLA_0000108714	OLA_0000108714	Email from S. Sanner to info@olaplex.com, dated May 31, 2014	REL; 403; MIL
4118		OLA_0000109817	OLA_0000109817	New Olaplex Usage Instructions	H; CP
4119	8/8/2014	OLA_0000109861	OLA_0000109861	Email from Dean Christal to Tracey Cunningham RE Allure UK quote	REL; 403; MIL
4120	3/23/2014	OLA_0000111990	OLA_0000111990	Email from C. basye to info@olaplex, dated May 26, 2014	REL; 403; MIL
4121	5/31/2014	OLA_0000112321	OLA_0000112321	Email from B, Matter to info@olaplex.com, dated May 19, 2014	REL; 403; MIL
4122	5/19/2014	OLA_0000112335	OLA_0000112335	Email from Merry to info@olaplex.com, dated May 19, 2014	REL; 403; MIL
4123	5/19/2014	OLA_0000113247	OLA_0000113247	Email from K. Diaz to info@olaplex.com, dated April 27, 2014	REL; 403; MIL
4124	3/5/2014	OLA_0000115360	OLA_0000115361	Email from A. Dodds to D. Christal, dated March 5, 2014	REL; 403; MIL
4125		OLA_0000117204	OLA_0000117204	Excel Export Spreadsheey (export 20170411_141723	REL; 403; COMP

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4126	9/14/2018	OLA_0000118059	OLA_0000118096	CA Application No. 2,947,303 4th Protest and Submission of Prior Art	REL; H
4127	2/1/2019	OLA_0000119302	OLA_000020147	U.S. Application No. 15/290,593	REL
4128	10/31/2018	OLA_0000120770	OLA_0000120776	Declaration of Dean Christal in PGR2018-00025, dated October 31, 2018	H; MIL
4129	10/31/2018	OLA_0000120770	OLA_0000120776	PGR2018-00025 (Exhibit 2046) -Christal Declaration	H, MIL
4130	10/24/2018	OLA_0000120777	OLA_0000120890	PGR2018-00025 (Exhibit 2061) -Wickett Deposition transcript	H, MIL
4131	5/5/2015	OLA_0000120891	OLA_0000120891	PGR2018-00025 (Exhibit 2067) - Dolden Project Olivia Notes on R&I Meeting, May 5, 2015	H, MIL
4132	6/18/2015	OLA_0000120892	OLA_0000120909	PGR2018-00025 (Exhibit 2068) - Project Olivia Investment Committee - June 18, 2015	MIL
4133	6/29/2015	OLA_0000120910	OLA_0000120911	PGR2018-00025 (Exhibit 2069) - Email from K. O'Rourke to R. Dolden, dated June 29, 2015	MIL
4134	5/8/2018	OLA_0000120912	OLA_0000120942	PGR2018-00025 (Exhibit 2070) - HIGHLY CONFIDENTIAL Defendants Third Supplemental Objections and Responses to Plaintiffs Interrogatory No. 2, dated May 8, 2018	MIL
4135	4/16/2015	OLA_0000120943	OLA_0000120945	PGR2018-00025 (Exhibit 2071) - Email from R. Dolden to D. Morgan, dated April 16, 2015	MIL
4136	11/16/2018	OLA_0000120946	OLA_0000121136	PGR2018-00025 (Exhibit 2072) -Borish Declaration	H, MIL
4137	11/16/2018	OLA_0000121137	OLA_0000121228	PGR2018-00025 (Paper 23) -Patent Owner's Response	H, MIL, REL
4138	2/4/2016	OLA_0000121270	OLA_0000121275	Email from D. Christal to D. Russell, dated February 4, 2016	H; REL; 403; MIL
4139	4/24/2015	PABST000210	PABST000254	U.S. Application No. 62/152,220	REL; MIL
4140	7/9/2018	PABST001982	PABST001985	Letter from R. Monheit datyed July 9, 2018	FO, REL
4141		PABST003642	PABST004085	New Zealand(NZ)Hair Treatment Compositions & Methods Application Folder LIQ 103 (Foreign)	REL; 403
4142		PABST005680	PABST006081	Japan(JP)Hair Treatment Compositions&Methods Liqwd Inc Vol 2 LIQ 103 (Foreign)	REL; 403
4143		PABST007494	PABST007827	Mexico(MX)Hair Treatment Compositions&Methods Liqwd Inc. Application Folder LIQ 103 (Foreign)	REL; 403

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4144		PABST010979	PABST011362	Australia (AU)Hair Treatment Compositions & Methods Liqwd Inc Application Fodler (LIQ 103 (Foreign)	REL; 403
4145		PABST011363	PABST011644	LIQ 103 NZ (References firm 3rd Party Submission).pdf	REL; 403
4146		PABST012193	PABST012566	Singapore (SG) Hair Treatment Compositions&Methods Liqwd Inc. Application Folder LIQ 103 (Foreign)	REL; 403
4147		PABST013130	PABST013722	New Zealand(NZ)Hair Treatment Compositions&Methods Vol 2.Application Folder LIQ 103 (Foreign)	REL; 403
4148		PABST013723	PABST013943	Australi(AU)Hair Treatment Compositions&Methods Liqwd Inc. Application Folder LIQ 103 (Foreign)	REL; 403
4149		PABST014480	PABST015163	Canada(CA)HairTreatment Compositions&Methods Liqwd Vol 1.pdf	REL; 403
4150		PABST016921	PABST017139	El Salvador (SV) Hair Treatment Compositions & Methods Liqwd Inc. Application Folder LIQ 103 (Foreign)	REL; 403
4151		PABST017140	PABST017407	(EAPO) Eurasian Patent Organization Hair Treatment Compositions Application Folder LIQ 103 (Foreign)	REL; 403
4152		PABST017408	PABST017729	Europe(EP)HairTreatment Compositions & Methods Liqwd Vol 1 Application Folder LIQ 103 (Foreign)	REL; 403
4153	12/20/2018	UCSB000251	UCSB000272	Exhibit 762 to the 12/20/2018 deposition of Craig J.Hawker, entitled "Central Role of Chemistry,"	H; A; REL; 403; BE
4154	12/20/2018	UCSB000273	UCSB000341	Exhibit 761 to the 12/20/2018 deposition of Craig J.Hawker, entitled, "Success stories in commercial functional materials – from hair care to pharmaceuticals,"	H; A; REL; 403; BE
4155	7/8/1905	UCSB000273	UCSB000241	Presentation- Success stories in commercial functional materials - from hair care to pharmaceuticals, Craig J. Hawker	H; A; CP; REL; 403

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4156	12/12/2014	UCSB000815	UCSB000821	Email from Craig Hawker to Ezat Khoshdel Re: Emailing: Behind the Chair -Articles Hair Colour Technology (Exhibit 757 to the 12/20/2018 deposition of Craig J.Hawker)	H; A; CP; REL; 403
4157					
4158	7/25/2017			U.S. Patent No. 9,713,583	NVP; DIS; REL; 403; FO
4159	5/1/2015			U.S. Application No. 62/155,900	NVP; DIS; REL; 403; FO
4160	5/1/2015			U.S. Application No. 62/155931	NVP; DIS; REL; 403; FO
4161	11/24/2015			U.S. Application No. 62/259564	NVP; DIS; REL; 403; FO
4162	2009			John Halal, Hair Structure and Chemistry Simplified (Cengage Learning, 5th ed. 2009)	NVP, DIS, FO, H
4163				Intentionally Left Blank	
4164				Intentionally Left Blank	
4165	5/16/2006			US 7,044,986	REL; 403; FO; NVP; DIS
4166	1/14/2003			"Hair Dye Composition" Korean Patent Publication No. 2003- 0003970	REL; 403; FO; NVP; DIS
4167				Intentionally Left Blank	
4168				Jerry March, Advanced Organic Chemistry – Reactions, Mechanisms, and Structure (John Wiley & Sons 4th ed.).	REL; 403; FO; NVP; DIS
4169	12/22/2006;			National Center for Biotechnology Information PubChem Database entry for "Hydrogen maleate"	REL; 403; FO; NVP; DIS
4170	9/16/2004;			National Center for Biotechnology Information PubChem Database entry for "Maleate"	REL; 403; FO; NVP; DIS
4171	9/16/2004;			National Center for Biotechnology Information PubChem Database entry for "Maleic Acid"	REL; 403; FO; NVP; DIS
4172	10/8/2018			Olaplex Website The Olaplex Difference	REL; 403; FO; NVP; DIS

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4173	9/18/2016			Bea McMonagle, Chemists Turned Hair Gurus Responsible for a Blonder Hollywood Target Perms and Straighteners, Forbes.com	REL; 403; FO; NVP; DIS
4174				Intentionally Left Blank	N/A
4175				Intentionally Left Blank	
4176	9/21/2017			Liqwd's response to an examination report and amended description and claims in New Zealand Patent Application No. 725652	REL; 403; FO; NVP; DIS
4177	5/25/2017			"Response to Written Opinion Dated 25 May 2017" filed by Liqwd in Singapore Patent Application No. 11201609005Q	REL; 403; FO; NVP; DIS
4178	11/15/2016			Filing receipt for Israeli Patent Application No. 248989 filed by Liqwd	REL; 403; FO; NVP; DIS
4179	6/5/2017			"Memorandum in Response to Official Action of June 5, 2017," filed in Israeli Patent Application No. 248989	REL; 403; FO; NVP; DIS
4180	12/6/2017			"Response – Advanced Examination" filed by Liqwd, Inc. in Canadian Patent Application No. 2,947,303	REL; 403; FO; NVP; DIS
4181	8/17/2018			"LIQWD's response" in Korean Patent Cancellation proceeding 2017 So 45	REL; 403; FO; NVP; DIS
4182	8/23/2016			"Amendment and Response to Office Action" from File History for U.S. App. No. 15/087,415	FO, H
4183	9/29/2017			"Request to Amend a Complete Specification," filed by Liqwd, Inc. in Australian Patent Application No. 2015258904	REL; 403; FO; NVP; DIS
4184	1/12/2017			Declaration of Edward T. Borish, PH.D. in Support of Olaplex's Motion for a Preliminary Injunction	FO, H
4185	4/29/2017			Patent Owner's Preliminary Response filed by Liqwd, Inc. in PGR2017-00012	REL; 403; FO; NVP; DIS
4186				Intentionally Left Blank	
4187	4/17/2018			"Preliminary Amendment" from 1File History for U.S. App. No. 15/940,150	REL; 403; FO; NVP; DIS

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4188	4/25/2018			Excerpt of transcripts of proceedings in the High Court of Justice, Business and Property Courts of England and Wales, in the matter of Liqwd, Inc. v. L'Oréal (U.K.) Ltd., Claim No. HP-2016-000056	REL; 403; FO; NVP; DIS
4189	1999			Raymond E. Davis et al., Modern Chemistry (Holt, Rinehart & Winston 1999)	REL; 403; FO; NVP; DIS
4190	2009			André O. Barel et al., Handbook of Cosmetic Science and Technology (Informa Healthcare USA, Inc. 3rd ed. 2009)	DIS, FO, H
4191	2010			Y.K. Kamath et al., Hair Breakage by Combing and Brushing—A Comment on: T.A. Evans and K. Park, A Statistical Analysis of Hair Breakage. II. Repeated Grooming Experiments, J. Cosmet. Sci., 41, 439-456 (2010)	REL; 403; FO; NVP; DIS
4192	5/3/2016			US 9,326,926	REL; 403; FO; NVP; DIS
4193	5/16/2014			U.S. Patent Provisional Application No. 61/994,709	No Objection
4194	1997			Dale H. Johnson, Hair and Hair Care, Vol. 17 (Marcel Dekker, Inc. 1997)	DIS, FO, H
4195	2008			Donald Voet et al., Fundamentals of Biochemistry – Life at the Molecular Level (John Wiley & Sons, Inc., 3rd ed. 2008)	REL; 403; FO; NVP; DIS
4196	2011			Sudhakar Mhaskar et al., Hair Breakage Index: An Alternative Tool for Damage Assessment of Human Hair, J. Cosmet. Sci., 62, 203-207 (2011)	REL; 403; FO; NVP; DIS
4197	2006			Manuel Gamez-Garcia, Understanding the Micro-Physical and Mechanical Properties of the Hair Cuticle Via Damage Analysis, J. Cosmet. Sci., 57, 423-424 (2006)	REL; 403; FO; NVP; DIS
4198	2000			Sigrid B. Ruetsch et al., Photodegradation of Human Hair: An SEM Study, J. Cosmet. Sci., 51, 103-125 (2000)	REL; 403; FO; NVP; DIS
4199				Intentionally Left Blank	

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4200	1983			Lidia M. Jankowska et al., The Relationships Between Ionic and Non-Ionic Diffusion of Sulfonamides Across the Rabbit Cornea	REL; 403; FO; NVP; DIS
4201	1997			Richard J. Lewis, Sr., Hawley's Condensed Chemical Dictionary (John Wiley & Sons, Inc. 13th ed. 1997)	REL; 403; FO; NVP; DIS
4202	10/26/2017			"Examination report No. 2 for standard patent application" issued by the Australian government For Application No. 2015258904	REL; 403; FO; NVP; DIS
4203	3/4/2018			Office action in Israeli patent application number 248989 filed by Liqwd with translation	REL; 403; FO; NVP; DIS
4204	12/18/2017			"Notification of the First Office Action" from the State Intellectual Property Office of the People's Republic of China in Chinese patent application number 201580026038.9 filed by Liqwd with translation	REL; 403; FO; NVP; DIS
4205	5/17/2018			"Notice of Cancellation Grounds" issued by the Korean Intellectual Property Tribunal and Appeal Board regarding Korean Patent No. 1787310 with translation	REL; 403; FO; NVP; DIS
4206	1995			Sukhvinder S. Sandhu et al., A Simple and Sensitive Method Using Protein Loss Measurements to Evaluate Damage to Human Hair During Combing, J. Soc. Cosmet. Chem., 46, 39-52 (1995)	REL; 403; FO; NVP; DIS
4207	2007			Manuel Gamez-Garcia et al., Patterns of Light Interference Produced by Damaged Cuticle Cells in Human Hair, J. Cosmet. Sci., 58, 269-282 (2007)	REL; 403; FO; NVP; DIS
4208	1993			M.L. Tate et al., Quantification and Prevention of Hair Damage, J.Soc. Cosmet. Chem., 44, 347-371 (1993)	REL; 403; FO; NVP; DIS
4209	5/22/2018			"Further Examination Report" by the New Zealand Intellectual Property Office, re No. 175402	REL; 403; FO; NVP; DIS
4210	11/30/2017			"Response to Written Opinion Dated 30 November 2017" filed by Liqwd in Singapore Patent Application No. 11201609005Q	REL; 403; FO; NVP; DIS

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4211				Intentionally Left Blank	N/A
4212	9/26/2017			Plaintiffs' Confidential Reply Brief in 2017-2295 (Fed. Cir.)	H; BE; REL; 403; FO; NVP; DIS
4213	7/31/2018			"Decision of Refusal" issued by Japan Patent Office re 2016-572832 with translation	REL; 403; FO; NVP; DIS
4214				Redline comparison between Olaplex's International Patent Application (PCT/US2015/031166) and Olaplex's US Patent Application 14/713,885	AU; REL; 403; FO; NVP; DIS
4215	5/1/2018			"Opinion" filed in Japan Patent Office re 2016-572832	REL; 403; FO; NVP; DIS
4216	10/30/2018			"Hair Internal Structure Strength", TRI Princeton Website	AU; NVP; DIS
4217	10/30/2018			"Repeated Grooming", TRI Princeton Website	AU; NVP; DIS
4218	3/21/2018			"Response - Advanced Examination" filed by Liqwd in Canadian Patent Application 2,947,303	AU; NVP; DIS
4219	10/26/2015			"Declaration Under 37 C.F.R. 1,132" in US Patent Application 14/713,885 by Eric Pressly	FO, H
4220				Intentionally Left Blank	N/A
4221				Intentionally Left Blank	N/A
4222				Intentionally Left Blank	N/A
4223				Intentionally Left Blank	N/A
4224				Intentionally Left Blank	N/A
4225				Intentionally Left Blank	N/A
4226	12/3/2014			Ingredients List for Olaplex Bond Multiplier No. 1, https://www.adiflagstore.it/media/wysiwyg/Olaplex/MSDS/Olaplex_Bond_Multiplier_No._1_Ingredient_List_Word , Cosway Company, Inc.	AU
4227	3/11/2019			Olaplex Distributor Info, https://web.archive.org/web/20150317081328/https://olaplex.com/pages/distributors	AU
4228	5/16/2014			US Provisional Application 61/994,709	No Objection
4229	4/25/2018			Liqwd v. L'Oreal UK Court Transcript, dated April 25, 2018 (excerpts)	AU; CP; FO; REL; 403; H

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4230				Intentionally Left Blank	N/A
4231	6/30/2018			L'Oréal 2018 Half-Yearly Financial Report	NVP; DIS; FO
4232	5/15/2014			Provisional Application for United States Letters Patent by E. Pressly and C. Hawker for Hair Treatment Compositions and Methods - (61/994,709)	No Objection
4233	8/23/2016			"Amendment and Response to Office Action," for Keratin Treatment Formulations And Methods - (15/087,415)	FO, H
4234	5/10/2016			"Second Preliminary Amendment," for Keratin Treatment Formulations and Methods (15/087,415)	H
4235	10/26/2015			Declaration Under 37 C.F.R. 1.132 of E. Pressly (14/713,885)	FO, H
4236	8/22/2016			Declaration Under 37 C.F.R. 1.132 of D. Christal (15,087,415)	FO, H
4237	8/17/2016			Applicant-Initiated Interview Summary (15/087,415)	FO, H
4238	9/7/2016			Applicant-Initiated Interview Summary (15/087,415)	FO, H
4239	9/20/2016			Notice of Allowability (15/087,415)	H
4240	4/4/2017			Distributor List from Olaplex's website, https://olaplex.com/pages/distributors	No Objection
4241	11/22/2016			Complaint for Patent Infringement filed in Central District of California, Liqwd Inc. and Olaplex LLC	H; BE
4242	3/31/2016			Request for Filing a Continuation Application (14/713,885)	No Objection
4243	2002			Webster's Third International New Dictionary (2002)	REL; 403; LO; NVP; DIS
4244	1992			The Academic Press Dictionary of Science and Technology (1992)	REL; 403; LO; NVP; DIS
4245	2011			American Heritage Science Dictionary (2011)	REL; 403; LO; NVP; DIS
4246	1998			John Corbett, Hair Colorants: Chemistry and Toxicology 1998	DIS, FO, H
4247				Intentionally Left Blank	

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4248	2000			L.J. Kirschenbaum, X. Qu, E.T. Borish, Oxygen Radicals from Photoirradiated Human Hair: An ESR and Fluorescence Study (May/June 2000)	FO, H
4249	4/23/2004			Opinion of the Scientific Committee on Cosmetic Products and Non-Food Products Intended for Consumers Concerning Acid Blue 9	AU, FO, H, REL, 403
4250	4/23/2004			Opinion of the Scientific Committee on Cosmetic Products and Non-Food Products Intended for Consumers Concerning Acid Yellow 23	AU, FO, H, REL, 403
4251	2015			Simone Aparecida de Franca et al., Types of Hair Dye and Their Mechanisms of Action (2015)	DIS, AU, FO, H, REL
4252	7/10/1997			PCT Publication No. WO 97/24106	REL; 403; NVP; DIS; AU; FO
4253	11/22/2001			U.S. Pub. No. 20010042276	REL; 403; NVP; DIS; AU; FO
4254	10/18/1994			U.S. Patent No. 5,356,438	DIS, H
4255	5/16/2006			U.S. Patent No. 7,044,986	H
4256	1/14/2003			KR Pat. No. 2003-0003970	H
4257				Declaration Of W. Todd Schoettelkotte In Support Of Defendant's Opposition To Plaintiffs' Motion For Preliminary Injunction	H
4258				"How it works: Olaplex" https://olaplex.com/pages/how-it-works	No Objection
4259	10/14/2016			"Matrix BOND Ultim8 Bond Protecting System Delivers 8 Bond-Protecting Benefits" https://www.modernsalon.com/article/78281/matrix-bond-ultim8-bond-protecting-system-...page	REL; 403; AU; FO; NVP; DIS
4260	9/30/2016			"Redken pH-Bonder Promotes Bond Integrity During Color and Lightening Services" https://www.modernsalon.com/product/39850/redken-ph-bonder-promotes-bond-integrity-...page	REL; 403; AU; FO; NVP; DIS
4261				Smartbond Kit - Steps For Use	AU
4262	7/23/2016			"Why ColorpHlex is Better Than Olaplex" http://wendyosalon.com/2017/01/peace-love-hair/	REL; 403; H; FO; AU; NVP; DIS

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4263	10/28/2015			"sallys salon: Olaplex vs. Colorphlex" https://sallysunisexhairdressers.wordpress.com/2015/10/28/olaplexvscolorphlex/	REL; 403; H; FO; AU; NVP; DIS
4264	6/14/2014			"ColorpHlex: Better than Olaplex? | Connieology" https://connieology.com/2016/06/14/colorphlexbetterthanolaplex/	REL; 403; H; FO; AU; NVP; DIS
4265	9/13/2015			"Why One Hairstylist Won't Use This Revolutionary Repair Product | Byrdie" http://www.byrdie.com/drawbackofolaplex#	REL; 403; H; FO; AU; NVP; DIS
4266				"Olaplex vs B3" http://thebeautyboxsalon.com/olaplex-vs-b3/	REL; 403; H; FO; AU; NVP; DIS
4267				"Hair Color Without Damage? Brazilian Bond Builder vs. Olaplex" https://www.naturallycurly.com/curlreading/curlproducts/haircolorwithoutdamagebrazilianb3vsolaplexsi/	REL; 403; H; FO; AU; NVP; DIS
4268	1/19/2017			"Olaplex VS Brazilian Bond Builder" Online Article	REL; 403; H; FO; AU; NVP; DIS
4269				Article Entitled "I'm a Hair Color Addict: This is What Saved My Hair" by R. Adler	REL; 403; H; FO; AU; NVP; DIS
4270	4/3/2017			Article Entitled "What you NEED to know about your hair and Science" from hairbyMelindaK	REL; 403; H; FO; AU; NVP; DIS
4271	12/13/2016			Article Entitled "OLAPLEX and BOND ANGEL comparisons" by Nutree Professional	REL; 403; H; FO; AU; NVP; DIS
4272	9/15/2015			Article Entitled "Olaplex™ and Bondplex™: Finally, products that can repair." by M. Rose	REL; 403; H; FO; AU; NVP; DIS
4273	3/19/2016			Article Entitled "This Product Is Why The Kardashians Can Dye Their Hair So Often Without It Falling Out" by D. Guercio	REL; 403; H; FO; AU; NVP; DIS
4274				allentownhairsalon.com , "Zerran edges out Olaplex in our testing"	REL; 403; H; FO; AU; NVP; DIS
4275	6/25/2015			Mr. & Mrs. Haircare, "A Revolution in Colouring Services"	REL; 403; H; FO; AU; NVP; DIS

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4276	July/August			The Colorist Magazine, "Building Bonds"	REL; 403; H; FO; AU; NVP; DIS
4277	7/16/2015			BehindtheChair.com, "Innovative New Products to SAVE Your Clients' Hair!"	REL; 403; H; FO; AU; NVP; DIS
4278				BehindTheChair.com's Facebook Page, About Section	REL; 403; H; FO; AU; NVP; DIS
4279	9/1/2015			HJI, "Secret Strengths: Strengthening Additives" September 2015	REL; 403; H; FO; AU; NVP; DIS
4280	4/22/2016			Kline Group, "Bond Multipliers Rev Up the U.S. Salon Hair Care Market's Growth to a Five-year High"	REL; 403; H; FO; AU; NVP; DIS
4281	11/8/2016			"Product Roundup: Bond Builders" by E. Jakaitis	REL; 403; H; FO; AU; NVP; DIS
4282	11/1/2016			Modern Salon, "Color Strong"	REL; 403; H; FO; AU; NVP; DIS
4283	Dec.			Beauty Launchpad Magazine (December 2016), Document Entitled: "Color"	REL; 403; H; FO; AU; NVP; DIS
4284	Dec.			Beauty Launchpad Magazine (December 2015), Document Entitled: "Color"	REL; 403; H; FO; AU; NVP; DIS
4285				Ultrabondseal.com, Page Entitled: "Brand Story: Ur Back Bar Solution"	REL; 403; H; FO; AU; NVP; DIS
4286				Keratincomplex.com, Page Entitled: "Bond Rebuilder Services"	REL; 403; H; FO; AU; NVP; DIS
4287				Niophlex No.01 100mL Product Page, at http://www.niophlex.com/assortment/niophlex-no-01-100ml	REL; 403; H; FO; AU; NVP; DIS
4288				Bondi Bond Repair System Product Page, at http://stores.colorexpress.org/bondi-bond-repair-system/	REL; 403; H; FO; AU; NVP; DIS
4289				Color Brilliance Absolute Perfection Booster Step 1 Product Page, at http://www.sallybeauty.com/step-one-booster/SBS-405017,default,pd.html	REL; 403; H; FO; AU; NVP; DIS

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4290				Quadrplex Product Page, at http://oligoprofessional.com/en/quadrplex-2/	REL; 403; H; FO; AU; NVP; DIS
4291				Wella SP Liquid Hair 100mL Product Page, at www.beautybay.com/haircare/wellsap/liquidhair/	REL; 403; H; FO; AU; NVP; DIS
4292				Gkhair Shield Additive+ Product Page, at https://www.gkhair.com/p/shield-additive	REL; 403; H; FO; AU; NVP; DIS
4293				Goldwell BondPro+ Product Page, at http://www.goldwell.us/products/color/system/bondpro/	REL; 403; H; FO; AU; NVP; DIS
4294				Uberliss.com, Bond Treatment FAQ, https://uberliss.com/pages/bond-treatment-faq	REL; 403; H; FO; AU; NVP; DIS
4295				8XPowder Product Page, at https://en.trussprofessional.com/product/details/208	REL; 403; H; FO; AU; NVP; DIS
4296				Document Entitled: "Brazilian Professionals is the ONLY authorized online retailer to sell authentic Brazilian Bond Builder products.", at http://brazilianbondbuilder.com/AuthorizedRetailers.html?i frame=true&width=600&height=300	REL; 403; H; FO; AU; NVP; DIS
4297				Document Entitled: "US Distributors, colorpHlex", at http://colorphlex.com/distributors/	REL; 403; H; FO; AU; NVP; DIS
4298				Olaplex.com, Page Entitled: "OLAPLEX - Prevent Damage, Repair Hair"	REL; 403; H; FO; AU; NVP; DIS
4299	3/15/2016			Twitter.com, Tweet by @olaplex Entitled: "April G. compared Olaplex & 5 other 'bond builders' LIVE on Perisdcope yesterday," at https://twitter.com/olaplex/status/709763840284565504	REL; 403; H; FO; AU; NVP; DIS
4300	9/17/2015			ModernSalon.com, Article Entitled: "Hero Complex: An Interview with Dean Christal of Olaplex" by A. Moratto, at https://www.modernsalon.com/article/32793/hero-complex-an-interview-with-dean-christa	REL; 403; H; FO; AU; NVP; DIS

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4301				Olaplex.com, Page Entitled: "Distributor List" at https://olaplex.com/pages/distributors	REL; 403; H; FO; AU; NVP; DIS
4302	6/5/2017			Chart Comparing Statements In Dr. N. Mody's Rebuttal Declaration (D.I. 97) With Evidence Obtained in This Case	REL; 403; H; FO; AU; NVP; DIS
4303	5/16/2018			Declaration Of Steven Orzel, dated May 16, 2018	H; FO
4304	5/21/2018			Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018	FO, H
4305	5/21/2018			Exhibit A to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018, "List of Materials Considered"	FO, H, REL
4306	5/21/2018			Exhibit B to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018, "Curriculum Vitae of Dr. Benny D. Freeman"	FO, H, REL
4307	5/21/2018			Exhibit C to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018, "List of Expert Witness Cases"	FO, H, REL
4308	5/21/2018			Exhibit D to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018, "The Science of Hair Care" Scan of book Charles Zviak, Chapter 8: "Oxidative Coloring" from "The Science of Hair Care" (1986)	FO, H

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4309	5/21/2018			Exhibit E to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018, "LOh, I. and Hong, S., "Low temperature preparation of ultrafine LiCoO2 powders by the sol-del method," 32 J. MAT. SCI. 3177-3182 (1997)	FO, H, REL
4310	5/21/2018			Exhibit F to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018, Fey, G.T. et al., "Electroanalytical studies on sol-gel derived LiNi0.8Co0.2O2," 82 MAT. CHEM. PHYS. 5-15 (2003)	H, REL
4311				Intentionally Left Blank	
4312	5/21/2018			Exhibit H to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018, Charles Zviak and Jean Milléquant, Chapter 7: "Hair Bleaching" and Chapter 9: "Oxidation Coloring" from "The Science of Hair Care" (2nd ed.) (Eds. Bouillon & Wilkinson) (2005)	COMP, FO, H
4313	5/21/2018			Exhibit I to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018, Keith Brown and Stanley Pohl, "Permanent Hair Dyes," Society of Cosmetic Chemists Monograph (1996)	FO, H, REL
4314				Intentionally Left Blank	
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Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4316	5/21/2018			Exhibit L to Declaration Of Benny D. Freeman, Ph.D. In Support Of Defendants' Opposition To Plaintiffs' Motion For A Preliminary Injunction, dated May 21, 2018L.J. Wolfram, "The Reactivity of Human Hair: A Review," Hair Research (Ed. Orfanos) (1981)	FO, H
4317				Intentionally Left Blank	
4318	5/21/2018			Declaration of W. Todd Schoettelkotte In Support Of Defendants' Opposition To Plaintiffs' Renewed Motion For Preliminary Injunction, dated May 21, 2018	H; FO
4319	5/21/2018			Appendix 3 to Declaration of W. Todd Schoettelkotte In Support Of Defendants' Opposition To Plaintiffs' Renewed Motion For Preliminary Injunction, dated May 21, 2018	H; FO
4320	1/16/2018			Liqwd, Inc. v. L'Oréal USA, Inc. , 2018 U.S. App. LEXIS 1078 (Fed. Cir. Jan. 16, 2018)	No Objection
4321	5/16/2018			Olaplex.com, Page Entitled: "OLAPLEX - Prevent Damage, Repair Hair"	DIS; AU; H; FO; REL; MIL
4322	5/21/2018			Product Search For "Bonder" on Cosmoprofbeauty.com, https://www.cosmoprofbeauty.com/search?q=bonder&backToSearchPage=true&viewallproduct=true	REL; AU; H; FO
4323	5/16/2018			Webpage Entitled: "The Wella Professionals Heritage" at http://www.wella.com/professional/en-US/family-history#/	REL; H; AU; FO
4324	5/21/2018			Wella.com, Page Entitled: "WellaPlex OPTI pH SYSTEM" at wella.com/professional/en-US/products/color-information/wellaplex_bond_builder	REL; AU; H; FO
4325	5/21/2018			Document Entitled: "Wella: WellaPlex Large Kit"	REL; AU; H; FO; DIS

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4326	4/27/2018			"How The Top 1000 Online Retailers Performed In 2017" Online Article, https://www.digitalcommerce360.com/2018/04/27/how-the-top-1000-online-retailers-performed-in-2017/	REL; AU; H; FO
4327	4/25/2018			Excerpts From The Computer-Aided Transcripts Of Proceedings In The High Court Of Justice, Business And Property Courts Of England And Wales, In The Matter Of Liqwd, Inc. V. L'Oréal (U.K.) Ltd., Claim No. Hp-2016-000056	DIS; CP; REL; H; FO; AU
4328	10/26/2017			Document Entitled: "Examination report No. 2 for standard patent application," and dated October 26, 2017, issued by the Australian government in connection with an Australian patent application filed by Liqwd, Inc.	DIS; REL; H; FO; AU
4329	12/21/2017			Document Re. Canadian Patent Application No. 2,947,303, Title: Keratin Treatment Formulations and Methods	DIS; REL; H; FO; AU
4330	2017-2018			Copy Of The Record In L'Oreal Usa, Inc., V. Liqwd, Inc., Case No. PGR2017-00012 (P.T.A.B.) Up To And Including The Institution Decision On July 19, 2017 And The Supplemental Institution Decision On May 10, 2018	NVP, DIS, AU, COMP, CP, FO, H, MIL, REL, 403
4331	9/23/2016			Screenshot Of Olaplex's Website, viewed on September 23, 2016	DIS; REL; H; FO; AU
4332	3/4/2018			Office action in Israeli patent application number 248989 filed by Liqwd, Inc., dated March 4, 2018	DIS; REL; H; FO; AU
4333	12/18/2017			"Notification of the First Office Action" from the State Intellectual Property Office of the People's Republic of China ("SIPO") in Chinese patent application number 201580026038.9 filed by Liqwd, Inc., dated December 18, 2017, and a certified translation thereof.	DIS; REL; H; FO; AU
4334				Intentionally Left Blank	

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4335				U.S. Provisional Patent Application No. 61/994,709	No Objection
4336	5/1/2014			"The Power of One" from Beauty Launchpad magazine dated May 2014	DIS; REL; H; FO; AU
4337	5/17/2017			"Notice of Cancellation Grounds" dated May 17, 2017, issued by the Korean Intellectual Property Tribunal and Appeal Board regarding Korean Patent No. 1787310 owned by LIQWD Incorporated, and a certified translation thereof	DIS; REL; H; FO; AU
4338	1/29/2019			Expert Report of Benny D. Freeman, Ph.D. on Invalidity of U.S. Patent Nos. 9,498,419 and 9,668,954, dated January 29, 2019	FO, H, REL
4339	1986			Charles Zviak & Rodney P.R. Dawber, Hair Structure, Function, and Physicochemical Properties, The Science of Hair Care (Charles Zviak ed., 1st ed. 1986) ("Zviak II")	FO, H
4340	4/28/2015			U.S. Patent No. 9,018,150 ("Rizk")	H
4341	3/31/2005			U.S. Patent Application Pub. No. US 2005/0069516	DIS; REL; H; FO; AU; MIL
4342	1/26/2012			U.S. Patent Application Pub No. US 2012/0021025	DIS; REL; H; FO; AU; MIL
4343	5/1/2000			Charles Q. Yang & Xiaohong Gu, Polymerization of Maleic Acid and Itaconic Acid Studied by FT-Raman Spectroscopy, 81 J. App. Poly. Sci. 223 (2001) ("Yang II")	H, REL
4344	1/8/2019			Report and Recommendation, D.I. 602	REL; 403
4345				File History for U.S. Patent No. 9,498,419	No Objection
4346				File History for U.S. Patent No. 9,668,954	No Objection
4347				Intentionally Left Blank	
4348				File History for U.S. Patent No. 9,326,926	Comp
4349	5/16/2014			U.S. Provisional Patent Application No. 61/994,709	No Objection.
4350	11/1/2018			Markman Hearing Transcript dated November 1, 2018, in Liqwd, Inc. v. L'Oréal USA, Inc., No. 1:17-cv-0014-JFB-SRF	No Objection
4351	9/24/2018			Joint Claim Construction Chart, D.I. 404-1, at Ex. A	No Objection

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4352				Excerpts of Raymond E. Davis et al., Modern Chemistry (Holt, Rinehart & Winston 1999)	H; FO; DIS; MIL; CP
4353				Excerpts of Richard J. Lewis, Sr., Hawley's Condensed Chemical Dictionary (John Wiley & Sons, Inc. 13th ed. 1997)	H; FO; DIS; MIL; CP
4354	1/29/2019			Curriculum vitae of Benny D. Freeman, Ph.D	FO, H
4355	1/29/2019			List of Cases Involving Deposition or Trial Testimony of Benny D. Freeman, Ph.D	H; FO; MIL
4356	1/29/2019			List of Documents and Materials Considered in connection with Expert Report of Benny D. Freeman, PhD dated Jan. 29, 2019	H; FO; MIL
4357	10/8/2018			Lidia M. Jankowska et al., The Relationships Between Ionic and Non-Ionic Diffusion of Sulfonamides Across the Rabbit Cornea (1986) ("Jankowska"), D.I. 421, JP Decl. Ex. AW	H; FO; MIL
4358	10/10/2018			Maleic Acid, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/444266 ("NCBI - Maleic Acid"), D.I. 421, JP Decl. Ex. O	H; FO; MIL
4359	10/10/2018			Hydrogen Maleate, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/11966254 , D.I. 421, JP Decl. Ex. M	H; FO; MIL
4360	10/10/2018			Maleate, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/5288227 , D.I. 421, JP Decl. Ex. N	H; FO; MIL
4361				Intentionally Left Blank	
4362	10/10/2018			Excerpts of Donald Voet et al., Fundamentals of Biochemistry – Life at the Molecular Level (John Wiley & Sons, Inc., 3rd ed. 2008), D.I. 421, JP decl. Ex. AR ("Voet")	H; FO; MIL; CP

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4363	6/9/2011			Y.K. Kamath et al., Hair Breakage by Combing and Brushing—A Comment on: T.A. Evans and K. Park, A Statistical Analysis of Hair Breakage. II. Repeated Grooming Experiments, J. Cosmet. Sci., 41, 439-456 (2010), 62 J. Cosmet. Sci. 579 (2011), filed as Exhibit 1015 in the matter of L'Oréal USA, Inc. v. Liqwd, Inc., Case No. PGR2018-00025 (P.T.A.B.), concerning the '954 patent, D.I. 421, JP decl. Ex. AN ("Kamath")	H; FO; MIL
4364	11/16/2006			Manuel Gamez-Garcia, Understanding the Micro-Physical and Mechanical Properties of the Hair Cuticle Via Damage Analysis, 57 J. Cosmet. Sci. 423 (2006), D.I. 421, JP Decl. Ex. AT ("Gamez-Garcia I")	H; FO; MIL
4365	1/31/2000			Sigrid B. Ruetsch et al., Photodegradation of Human Hair: An SEM Study, 51 J. Cosmet. Sci. 103 (2000), D.I. 421, JP Decl. Ex. AU ("Ruetsch")	H; FO; MIL
4366				Intentionally Left Blank	
4367	10/10/2018			Excerpts of André O. Barel et al., Handbook of Cosmetic Science and Technology (Informa Healthcare USA, Inc. 3rd ed. 2009), filed as Exhibit 1017 in the matter of L'Oréal USA, Inc. v. Liqwd, Inc., Case No. PGR2018-00025 (P.T.A.B.), concerning the '954 patent, D.I. 421, JP Decl. Ex. AM ("Barel")	BE, CP, FO, H, MIL
4368	10/10/2018			Manuel Gamez-Garcia et al., Patterns of Light Interference Produced by Damaged Cuticle Cells in Human Hair, 58 J. Cosmet. Sci. 269 (2007), D.I. 421 JP Decl. Ex. BE ("Gamez-Garcia II")	H; FO; MIL
4369	10/10/2018			Sukhvinder S. Sandhu et al., A Simple and Sensitive Method Using Protein Loss Measurements to Evaluate Damage to Human Hair During Combing, 46 J. Soc. Cosmet. Chem. 39 (1995), D.I. 421, JP Decl. Ex. BD ("Sandhu")	H; FO; MIL
4370	10/10/2018			M.L. Tate et al., Quantification and Prevention of Hair Damage, 44 J.Soc. Cosmet. Chem. 347 (1993), D.I. 421, JP Decl. Ex. BF ("Tate")	H; FO; MIL

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4371	6/28/2014			Internet Archive Website preservation of "Olaplex.com" website as of June 28, 2014	AU; REL; DIS; H; CP; COMP; FO
4372	11/5/2014			B(l)ack to Blonde—A Boxed Haircolor Story, Behindthechair.com (November 5, 2014), https://behindthechair.com/articles/b-l-ack-to-blonde-a-boxed-haircolor-story/	H; AU; FO
4373	1/29/2019			2,2'-(Ethylenedioxy)bis(ethymaleimide), Alfa Chemistry, https://www.alfa-chemistry.com/cas_115597-84-7.htm	AU; H; FO
4374	1/29/2019			2,2'-(Ethylenedioxy)bis(ethylamine), Sigma-Aldrich, https://www.sigmaaldrich.com/catalog/product/aldrich/385506?lang=en&region=US	AU; H; FO
4375				Material Safety Data Sheet Olaplex Bond Multiplier No. 1 dated December 2014	DIS; AU; H; FO
4376	1/19/2019			Fumaric Acid, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/fumaric_acid ("NCBI - Fumaric Acid")	AU; H; FO
4377	1/12/2019			Itaconic Acid, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/Itaconic_acid ("NCBI - Itaconic Acid")	AU; H; FO
4378	8/4/2015			U.S. Patent No. 9,095,518 ("the '518 patent")	REL
4379	3/29/2018			Deposition Transcript of Edward Borish, Ph.D (5/2/2018), at Ex. 127, Cosmetics - CosIng [EC Regulation (v.2)],	AU, FO, REL
4380	5/2/2018			Excerpts from the computer-aided transcripts of proceedings in the High Court of Justice, Business and Property Courts of England and Wales, in the matter of Liqwd, Inc. v. L'Oréal (U.K.) Ltd., Claim No. HP-2016-000056 (5/2/2018), D.I. 608, Ex. C	DIS; CP; REL; H; FO; AU
4381	2/5/2015			International Patent Application Pub. No. WO 2015/017768 ("WO '768")	DIS; REL; AU; FO; H

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4382	5/22/2017			Defendants First Supplemental Objections and Responses to Plaintiffs' First Set of Interrogatories (No. 1), Deposition Transcript of Kimberly Dreher (5/22/2017), at Ex. 99	H; COMP
4383	12/20/2018			Defendants' First Supplemental Objections and Responses to Plaintiffs' Nineteenth Interrogatory	H
4384	12/3/2018			Defendants' Objections and Responses to Plaintiffs' Fifth Set of Interrogatories (Nos. 13-20)	H
4385	6/26/2013			Certified Copy of Priority Document for International Patent Application No. PCT/EP2014/063505, priority document numbered FR 1356138, filed June 26, 2013, copy of English translation, and certification of translation	DIS, AU, COMP, H
4386	6/26/2013			Certified Copy of Priority Document for International Patent Application No. PCT/EP2014/063505, priority document numbered FR 1356139, filed June 26, 2013, copy of English translation, and certification of translation	DIS, AU, COMP, H
4387				Charles Ziviak, Oxidation Coloring, The Science of Hair Care 263-277 (C. Bouillon & J. Wilkinson eds., 1986)	DIS, FO, H
4388	11/12/2013			World Intellectual Property Organization, Document Made Available Under the Patent Cooperation Treaty, International Application No. PCT/US2014/049388	No Objection
4389	10/24/2028			Third party observation - GB 1605346.4, filed in Application No. GB1605346.4 on 10/24/2028 and Exhibit E47 thereto	DIS; AU; FO; H; REL; COMP; CP
4390	4/26/2018			Excerpts from the computer-aided transcripts of proceedings in the High Court of Justice, Business and Property Courts of England and Wales, in the matter of Liqwd, Inc. v. L'Oréal (U.K.) Ltd., Claim No. HP-2016-000056 (4/26/2018)	DIS; CP; REL; H; FO; AU

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4391	11/16/2010			Michael J. Paterson & Aleksandar Jovanovic, On the synthesis of N-maleoyl amino acids in aqueous media: cautionary tales for the unwary traveller	DIS; AU; H; FO; REL; MIL
4392				Chantal Bolduc & Jerry Shapiro, Hair Care Products: Waving, Straightening, Conditioning, and Coloring, 19 Clinics in Dermatology 431 (2001)	DIS, FO, H
4393	1/29/2019			Rhonda Harper Expert Report, dated January 29, 2019	H; FO; MIL
4394	1/29/2019			Appendix A to Rhonda Harper Expert Report dated Jan. 29, 2019: Professional History	H; FO; MIL
4395	1/29/2019			Rhonda Harper CV	H; FO; MIL
4396	1/29/2019			R. Harper Expert Testimony Experience	H; FO; MIL
4397	9/28/2015			"Global Trust in Advertising," Nielsen, 2015	H; FO; MIL
4398	Sept.			Pew Research Center's Internet Project, September 2014	H; FO; MIL
4399	9/29/2013			"38 Surprising Facts about Trust in Social Media," Barn Raisers LLC, 2013	H; FO; MIL
4400				Marketing-dictionary.org	H; FO; MIL
4401	3/21/2015			Salongeek.com, "UK version of a Olaplex?", at https://salongeek.com/threads/uk-version-of-a-olaplex.284959/	H; FO; MIL
4402	1/29/2019			Expert Report of David Nolte, dated January 29, 2019	H; FO; MIL
4403	1/29/2019			David Nolte CV	H; FO; MIL
4404	1/29/2019			Document Entitled: "Olaplex Performance During Damage Period"	H; FO; MIL
4405	1/29/2019			Document Entitled: "Analysis of Olaplex Sales, by SKU"	H; FO; MIL
4406				Document Entitled: "Comparison of L'Oreal Projections to Actual Sales"	H; FO; MIL
4407				Document Entitled: "2016 Registration Document Annual Financial Report; Integrated Report"	H; FO; MIL
4408				https://www.klinegroup.com/ Webpage	H; FO; MIL
4409				Expert Report of Peter Smith Regarding Digital Computer Forensics, dated January 29, 2019	H; FO; MIL
4410				Peter Smith Curriculum Vitae	H; FO; MIL

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4411				Ex. B to Smith Expert Report - Report of content from the Instagram.com accounts	H; FO; MIL; REL; AU
4412				Ex. B-1 to Smith Expert Report -Instagram Screen Capture	H; FO; MIL; REL; AU
4413				Ex. B-2 to Smith Expert Report -Instagram Screen Capture	H; FO; MIL; REL; AU
4414				Ex. B-3 to Smith Expert Report - Instagram Screen Capture	H; FO; MIL; REL; AU
4415				Ex. B-4 to Smith Expert Report - Instagram Screen Capture	H; FO; MIL; REL; AU
4416				Ex. B-5 to Smith Expert Report - Instagram Screen Capture	H; FO; MIL; REL; AU
4417				Ex. B-6 to Smith Expert Report - Instagram Screen Capture	H; FO; MIL; REL; AU
4418				Ex. B-7 to Smith Expert Report - Instagram Screen Capture	H; FO; MIL; REL; AU
4419				Ex. B-8 to Smith Expert Report - Instagram Screen Capture	H; FO; MIL; REL; AU
4420				Ex. B-9 Smith Expert Report - Instagram Screen Capture	H; FO; MIL; REL; AU
4421				Ex. C to Smith Expert Report - Olaplex's Facebook page on February 21, 2016	H; FO; MIL; REL; AU
4422				Ex. D to Smith Expert Report - Report of captured postings on BeautyHeaven.com	H; FO; MIL; REL; AU
4423				Ex. D-1 to Smith Expert Report Beauty -Heaven.com Screen Captures	H; FO; MIL; REL; AU
4424				A report of captured postings that met either search criteria on HairDyeForum.com	H; FO; MIL; REL; AU
4425				Ex. E to Smith Expert Report - HairDyeForum.com screen captures	H; FO; MIL; REL; AU
4426				Ex. F to Smith Expert Report - Report of captured postings on Forums.LongHairCommunity.com	H; FO; MIL; REL; AU
4427				Ex. F-1 to Smith Expert Report - Forums.LongHairCommunity.com screen captures	H; FO; MIL; REL; AU

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4428				Ex. G to Smith Expert Report - Report of captured postings on Loveyourcurls.com	H; FO; MIL; REL; AU
4429				Ex. G-1 to Smith Expert Report - Loveyourcurls.com screen captures	H; FO; MIL; REL; AU
4430				Ex. G-2 to Smith Expert Report - Loveyourcurls.com screen captures	H; FO; MIL; REL; AU
4431				Ex. H to Smith Expert Report - Report of captured postings on Reddit.com	H; FO; MIL; REL; AU
4432				Ex. H1-H9 to Smith Expert Report -Screen captures	H; FO; MIL; REL; AU
4433				Ex. I to Smith Expert Report - Report of captured postings on Salongeek.com	H; FO; MIL; REL; AU
4434				Ex. I-1 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4435				Ex. I-2 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4436				Ex. I-3 to Smith Expert Report- Salongeek.com screen captures	H; FO; MIL; REL; AU
4437				Ex. I-4 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4438				Ex. I-5 to Smith Expert Report -Salongeek.com screen captures	H; FO; MIL; REL; AU
4439				Ex. I-6 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4440				Ex. I-7 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4441				Ex. I-8 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4442				Ex. I-9 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4443				Ex. I-10 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4444				Ex. I-11 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU

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4445				Ex. I-12 to Smith Expert Report - Salongeek.com screen captures	H; FO; MIL; REL; AU
4446				chemjobber.blogspot.com/2017/01/this-loreal-suit-seems-bad-for-them.html	H; DIS; FO; Q; REL
4447	1/31/2017			PGR2017-00012 (Paper 1) - Power of Attorney	MIL, REL
4448	1/31/2017			PGR2017-00012 (Paper 2) - PETITION FOR POST-GRANT REVIEW OF U.S. PATENT 9,498,419	H, MIL, REL, 403
4449	2/21/2017			PGR2017-00012 (Paper 3) - PATENT OWNER POWER OF ATTORNEY PURSUANT TO 37 C.F.R. SEC. 42.10(b)	MIL, REL
4450	2/21/2017			PGR2017-00012 (Paper 4) - PATENT OWNER MANDATORY NOTICES PURSUANT TO 37 C.F.R. SEC. 42.8(a)(2)	H, MIL, REL
4451	2/21/2017			PGR2017-00012 (Paper 5) - Updated Mandatory Notices	H, MIL, REL
4452	2/23/2017			PGR2017-00012 (Paper 6) - Notice of Accord Filing Date	MIL, REL
4453	4/30/2017			PGR2017-00012 (Paper 7) - Patent Owner's Preliminary Response Under 37 CFR 42.207	H, MIL, REL
4454				Intentionally Left Blank	N/A
4455				Intentionally Left Blank	N/A
4456				Intentionally Left Blank	N/A
4457				Intentionally Left Blank	N/A
4458				Intentionally Left Blank	N/A
4459				Intentionally Left Blank	N/A
4460				Intentionally Left Blank	N/A
4461				Intentionally Left Blank	N/A
4462				Intentionally Left Blank	N/A
4463	7/19/2017			PGR2017-00012 (Paper 17) - DECISION Institution of Post-Grant Review	H, MIL, REL, 403
4464	7/19/2017			PGR2017-00012 (Paper 18) - Scheduling Order	MIL, REL
4465	7/27/2019			PGR2017-00012 (Paper 19) - Submission of New Exhibit	H, MIL, REL
4466	7/27/2019			PGR2017-00012 (Paper 20) - Exhibit List	MIL, REL
4467	7/27/2019			PGR2017-00012 (Paper 21) - Certificate of Service	MIL, REL

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4468	8/2/2017			PGR2017-00012 (Paper 22) - Patent Owner LIQWDS Objections to Evidence under 37 C.F.R. 42.64(b)(1)	H, MIL, REL
4469	8/15/2017			PGR2017-00012 (Paper 23) - Patent Owner LIQWDS List of Proposed Motions	H, MIL, REL
4470	8/23/2017			PGR2017-00012 (Paper 24) - Patent Owner's Objections to Petitioner's Supplemental Evidence	H, MIL, REL
4471	8/24/2017			PGR2017-00012 (Paper 25) - Order Conduct of the Proceeding	H, MIL, REL
4472	8/24/2017			PGR2017-00012 (Paper 26) - Order Conduct of the Proceeding	H, MIL, REL
4473	8/29/2017			PGR2017-00012 (Paper 28) - PATENT OWNERS UPDATED EXHIBIT LIST (as of August 29, 2017)	H, MIL, REL
4474	8/30/2017			PGR2017-00012 (Paper 29) - Motion to Seal Patent Owner's Motion for Additional Evidence and Related Confidential Exhibits	H, MIL, REL
4475	8/31/2017			PGR2017-00012 (Paper 30) - Petitioner's Motion for Supplemental Information	H, MIL, REL
4476	9/5/2017			PGR2017-00012 (Paper 31) - Petitioners Opposition to Patent Owners Motion for Additional Discovery	H, MIL, REL
4477	9/6/2017			PGR2017-00012 (Paper 32) - Petitioners Objections to Patent Owners Evidence	H, MIL, REL
4478	9/7/2017			PGR2017-00012 (Paper 33) - Patent Owner's Opposition to Petitioner's Motion for Supplemental Information Under 37 C.F.R. 42.223	H, MIL, REL
4479	9/11/2017			PGR2017-00012 (Paper 34) - Patent Owners Notice of Deposition of Arun Nandagiri	MIL, REL
4480	9/26/2017			PGR2017-00012 (Paper 35) - Patent Owner's Contingent Notice of Deposition of Jina Bang	MIL, REL
4481	9/26/2017			PGR2017-00012 (Paper 36) - Patent Owner's Contingent Notice of Deposition of David Joshua Sherman	MIL, REL
4482	9/28/2017			PGR2017-00012 (Paper 38) - Motion to Seal (1) Order Regarding Conduct of Proceeding (Paper 37) and (2) Related Exhibit 3001	H, MIL, REL

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4483	10/3/2017			PGR2017-00012 (Paper 39) - Conduct of the Proceeding	MIL, REL
4484	10/9/2017			PGR2017-00012 (Paper 40) - Patent Owner's Amended Notice of Deposition of Jina Bang	MIL, REL
4485	10/9/2017			PGR2017-00012 (Paper 41) - Patent Owner's Notice of Deposition of David Joshua Sherman	MIL, REL
4486	10/9/2017			PGR2017-00012 (Paper 42) - Patent Owner Liqwd Inc's Updated Exhibit List	MIL, REL
4487	10/10/2017			PGR2017-00012 (Paper 43) - PETITIONERS UPDATED EXHIBIT LIST	H, MIL, REL
4488	10/21/2017			PGR2017-00012 (Paper 45) - MOTION TO SEAL (1) PATENT OWNERS RESPONSE (PAPER 44) AND (2) RELATED EXHIBITS 2022, 2023, 2025, 2038, 2039, AND 2040 AND FOR PROTECTIVE ORDERS	H, MIL, REL
4489	10/27/2017			PGR2017-00012 (Paper 46) - PETITIONERS OBJECTIONS TO PATENT OWNERS EVIDENCE	H, MIL, REL
4490	11/28/2017			PGR2017-00012 (Paper 47) - Petitioners Contingent Notice of Deposition of Thomas Dispenza	MIL, REL
4491	11/30/2017			PGR2017-00012 (Paper 48) - Petitioners Contingent Notice of Deposition of Edward Borish, Ph.D.	MIL, REL
4492	12/7/2017			PGR2017-00012 (Paper 49) - Petitioners Amended Notice of Deposition of Thomas Dispenza	MIL, REL
4493	12/14/2017			PGR2017-00012 (Paper 50) - Petitioners Amended Notice of Deposition of Edward Borish, Ph.D	MIL, REL
4494	12/27/2017			PGR2017-00012 (Paper 51)- PETITIONERS NOTICE OF DEPOSITION OF ERIC PRESSLY	MIL, REL
4495	12/27/2017			PGR2017-00012 (Paper 52) - PETITIONERS NOTICE OF DEPOSITION OF DEAN CRISTAL	MIL, REL
4496	1/10/2018			PGR2017-00012 (Paper 53) - PETITIONERS AMENDED NOTICE OF DEPOSITION OF ERIC PRESSLY	MIL, REL
4497	1/26/2018			PGR2017-00012 (Paper 54) - MOTION TO SEAL PETITIONER S REPLY AND RELATED EXHIBITS 1024, 1027, 1028, 1036, AND 1041 AND FOR PROTECTIVE ORDER	H, MIL, REL

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4498	1/26/2018			PGR2017-00012 (Paper 57) - PETITIONERS UPDATED EXHIBIT LIST	H, MIL, REL
4499	2/2/2018			PGR2017-00012 (Paper 58) - Patent Owner Liqwd's Objections under 37 C.F.R. 42.64(b)(1) to Evidence Submitted in Support of Petitioner's Reply	MM
4500	2/8/2018			PGR2017-00012 (Paper 59) - PETITIONERS UPDATED MANDATORY NOTICES	H, MIL, REL
4501	2/12/2018			PGR2017-00012 (Paper 60) - PATENT OWNER LIQWD, INCS CONTINGENT NOTICE OF DEPOSITION OF MELANIE CRIM	MIL, REL
4502	2/12/2018			PGR2017-00012 (Paper 61) - PATENT OWNER LIQWD, INCS CONTINGENT NOTICE OF DEPOSITION OF ARUN NANDAGIRI	MIL, REL
4503	2/13/2018			PGR2017-00012 (Paper 62) - ORDER Conduct of the Proceeding	H, MIL, REL
4504	2/16/2018			PGR2017-00012 (Paper 63) - Amended Contingent Notice of Deposition of Melanie Crim	MIL, REL
4505	2/16/2018			PGR2017-00012 (Paper 64) - Amended Contingent Notice of Deposition of Arun Nandagiri	MIL, REL
4506	2/22/2018			PGR2017-00012 (Paper 65) - Patent Owner's Updated Amended Notice of Deposition of Arun Nandagiri	MIL, REL
4507	2/23/2018			PGR2017-00012 (Paper 66) - Patent Owner's Updated Amended Notice of Deposition of Melanie Crim	MIL, REL
4508	3/9/2018			PGR2017-00012 (Paper 67) - NOTICE OF SCHEDULING STIPULATION	MIL, REL
4509	3/12/2018			PGR2017-00012 (Paper 68) - Patent Owner's Notice of Continued Deposition of Arun Nandagiri	MIL, REL
4510	3/20/2018			PGR2017-00012 (Paper 69) - Patent Owner Rule 42.70 Request for Oral Argument	H, MIL, REL
4511	3/20/2018			PGR2017-00012 (Paper 71)- PETITIONERS REQUEST FOR ORAL ARGUMENT	H, MIL, REL
4512	3/20/2018			PGR2017-00012 (Paper 73) - PETITIONERS MOTION TO EXCLUDE EVIDENCE PURSUANT TO 37 C.F.R. 42.64(c)	H, MIL, REL

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4513	3/21/2018			PGR2017-00012 (Paper 74) - Motion to Seal (1) Patent Owner's Motion for Observations on Cross-Examination (PAPER 70), (2) Patent Owner's Motion to Exclude Petitioner's Evidence (PAPER 72), and (3) Related Exhibit 2056 and for a Protective Order	H, MIL, REL
4514	3/21/2018			PGR2017-00012 (Paper 75) - Patent Owner Liqwd's Updated Exhibit List	H, MIL, REL
4515	3/27/2018			PGR2017-00012 (Paper 76) - Notice of Scheduling Stipulation	MIL, REL
4516	3/27/2018			PGR2017-00012 (Paper 78) - Motion to Seal Patent Owner's Corrected Motion for Observations on Cross-Examination (Paper 77) and for Protective Order	H, MIL, REL
4517	3/27/2018			PGR2017-00012 (Paper 79) - Patent Owner's Opposition to Petitioner's Motion to Exclude Evidence under 37 C.F.R. 42.64(c)	H, MIL, REL
4518	3/28/2018			PGR2017-00012 (Paper 81) - ORDER Conduct of the Proceeding	H, MIL, REL
4519	3/29/2018			PGR2017-00012 (Paper 82) - PETITIONERS OPPOSITION TO PATENT OWNERS MOTION TO EXCLUDE EVIDENCE	BE, CP, H, MIL, REL
4520	3/29/2018			PGR2017-00012 (Paper 83) - PETITIONERS UPDATED EXHIBIT LIST	H, MIL, REL
4521	4/2/2018			PGR2017-00012 (Paper 84) - ORDER Trial Hearing	H, MIL, REL
4522	4/3/2018			PGR2017-00012 (Paper 87) - PETITIONERS REPLY TO PATENT OWNERS OPPOSITION TO MOTION TO EXCLUDE	H, MIL, REL
4523	4/3/2018			PGR2017-00012 (Paper 88) - Patent Owner's Motion to Seal its Reply In Support of its Motion to Exclude Evidence (Paper 85) and for a Protective Order	H, MIL, REL
4524	4/3/2018			PGR2017-00012 (Paper 89) - PETITIONERS UPDATED EXHIBIT LIST	H, MIL, REL
4525	4/3/2018			PGR2017-00012 (Paper 90) - MOTION TO SEAL PETITIONERS RESPONSE TO PATENT OWNERS CORRECTED MOTION FOR OBSERVATIONS (PAPER 86)	H, MIL, REL

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4526	4/4/2018			PGR2017-00012 (Paper 91) - Patent Owner Motion Seeking Remedy Regarding Protective Order Violation Concerning Sealed Exhibit 2025	H, MIL, REL
4527	4/6/2018			PGR2017-00012 (Paper 92) - Patent Owner's Updated Mandatory Notices Pursuant to 37 C.F.R. 42.8(a)(3) & (b)(2)	H, MIL, REL
4528	4/6/2018			PGR2017-00012 (Paper 93) - Patent Owner Liqwd Inc.'s Updated Exhibit List	MIL, REL
4529	4/10/2018			PGR2017-00012 (Paper 94) - Oral Hearing 37 C.F.R. sec 42.70	MIL, REL
4530	4/10/2018			PGR2017-00012 (Paper 95) - PETITIONERS UPDATED EXHIBIT LIST	H, MIL, REL
4531	4/10/2018			PGR2017-00012 (Paper 96) - PETITIONERS OPPOSITION TO PATENT OWNERS MOTION SEEKING REMEDY REGARDING PROTECTIVE ORDER VIOLATION CONCERNING SEALED EXHIBIT 2025	H, MIL, REL
4532	4/30/2018			PGR2017-00012 (Paper 97) - ORDER Conduct of the Proceeding	H, MIL, REL
4533	4/11/2018			PGR2017-00012 (Paper 98) - Hearing Transcript	H, MIL, REL, 403
4534	5/10/2018			PGR2017-00012 (Paper 99) - Conduct of the Proceeding	MIL, REL
4535	5/24/2018			PGR2017-00012 (Paper 100) - Patent Owner Liqwd, Inc.'s Supplemental Response Pursuant to Board's May 10, 2018 Order	H, MIL, REL
4536	5/31/2018			PGR2017-00012 (Paper 101) - Petitioners Reply to Patent Owners Supplemental Response	H, MIL, REL
4537	7/10/2018			PGR2017-00012 (Paper 103) - Patent Owner's Notice of Appeal to the U.S. Court of Appeals for the Federal Circuit	H, MIL, REL, 403
4538	7/13/2018			PGR2017-00012 (Paper 104) - JOINT MOTION TO SEAL FINAL WRITTEN DECISION (PAPER 102) AND FOR PROTECTIVE ORDER	H, MIL, REL
4539	11/22/2016			PGR2017-00012 (Exhibit 1001) - U.S. Patent No. 9,498,419	No Objection

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4540	5/16/2006			PGR2017-00012 (Exhibit 1002) - U.S. Patent No. 7,044,986	H, MIL
4541				PGR2017-00012 (Exhibit 1003) - German Patent Publication DE 1220969	H, MIL
4542	11/25/1964			PGR2017-00012 (Exhibit 1004) - Certified translation of German Patent Publication DE 1220969	BE, H, MIL
4543	12/19/2002			PGR2017-00012 (Exhibit 1005) -U.S. Patent Publication No. 2002/0189034	H, MIL
4544				PGR2017-00012 (Exhibit 1006) -Korean Patent Publication KR2006-0059564	H, MIL
4545	12/30/2016			PGR2017-00012 (Exhibit 1007) -Certified translation of Korean Patent Publication KR2006-0059564	BE, H, MIL, REL
4546	1/30/2017			PGR2017-00012 (Exhibit 1008) -Declaration of Arun Nandagiri	H, MIL
4547	10/26/2015			PGR2017-00012 (Exhibit 1009) -Declaration under 37 C.F.R. 1.132 of Eric D. Pressly, Ph.D.	H, MIL
4548	8/23/2016			PGR2017-00012 (Exhibit 1010) -Response to Office Action submitted August 23, 2016	H, MIL
4549	9/26/2016			PGR2017-00012 (Exhibit 1011) -Notice of Allowance and attachments mailed September 26, 2016	H, MIL
4550	6/28/1905			PGR2017-00012 (Exhibit 1012) -Thomas Clausen et al., Hair Preparations	H, MIL
4551	9/7/2016			PGR2017-00012 (Exhibit 1013) -Declaration under 37 C.F.R. 1.132 of Eric D. Pressly, Ph.D.	H, MIL
4552	5/23/2016			PGR2017-00012 (Exhibit 1014) -Office Action mailed May 23, 2016	H, MIL
4553	6/20/1905			PGR2017-00012 (Exhibit 1015) -JOHN CORBETT, HAIR COLORANTS	H, MIL
4554				PGR2017-00012 (Exhibit 1016) -Curriculum Vitae of Arun Nandagiri	H, MIL, REL
4555	6/24/1905			PGR2017-00012 (Exhibit 1017) -WEBSTERS THIRD INTERNATIONAL NEW DICTIONARY 40	CP, MIL, REL
4556				PGR2017-00012 (Exhibit 1018) -Certified translation of Korean Patent Publication KR2006-0059564	H, MIL

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4557				PGR2017-00012 (Exhibit 1019) -Sitch Declaration	H, MIL
4558				PGR2017-00012 (Exhibit 1020) -Sherman Declaration	H, MIL
4559	12/12/2017			PGR2017-00012 (Exhibit 1021) -Printout from New York State licensing website	H, MIL, REL
4560	12/12/2017			PGR2017-00012 (Exhibit 1022) -Printout from the Olaplex Website	H, MIL, REL
4561				PGR2017-00012 (Exhibit 1023) -Technical and Training Manual for Chromastics Hair Color Products	H, MIL, REL
4562	10/13/2017			PGR2017-00012 (Exhibit 1025) -Dispenza Deposition Transcript	H, MIL
4563	1/5/2018			PGR2017-00012 (Exhibit 1026) -Borish Deposition Transcript	H, MIL
4564	2/20/2007			PGR2017-00012 (Exhibit 1029) -U.S. Patent 7,179,302	H, MIL
4565	2/2/2012			PGR2017-00012 (Exhibit 1030) -U.S. Patent Publication 2012/0024309	H, MIL
4566	1/10/1978			PGR2017-00012 (Exhibit 1031) -U.S. Patent 4,067,345	H, MIL
4567	2/6/1979			PGR2017-00012 (Exhibit 1032) -U.S. Patent 4,138,478	H, MIL
4568	2/5/2015			PGR2017-00012 (Exhibit 1033) -U.S. Patent Publication US2015/0034119	H, MIL
4569	8/4/2015			PGR2017-00012 (Exhibit 1034) -U.S. Patent 9,095,518	H, MIL
4570	3/16/2017			PGR2017-00012 (Exhibit 1035) -PCT Publication WO2017041908	H, MIL
4571	11/22/2001			PGR2017-00012 (Exhibit 1037) -U.S. Patent Publication 2001/0042276	H, MIL
4572				PGR2017-00012 (Exhibit 1038) -C.R. Robbins, Chemical and Physical Behavior of Human Hair	H, MIL
4573	1/23/2018			PGR2017-00012 (Exhibit 1039) -Table 3.4, pKa values of some amino acids	CP, H, MIL
4574	1/26/2018			PGR2017-00012 (Exhibit 1040) -Rebuttal Declaration of Arun Nandagiri	H, MIL
4575	6/14/1905			PGR2017-00012 (Exhibit 1042) -CTFA Cosmetic Ingredient Handbook	CP, H, MIL
4576	6/13/1905			PGR2017-00012 (Exhibit 1043) -Daniel C. Harris, Quantitative Chemical Analysis	H, MIL

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4577	10/15/2013			PGR2017-00012 (Exhibit 1044) -U.S. Patent 8,556,992	H, MIL
4578				PGR2017-00012 (Exhibit 1047) -Signed Protective Order Acknowledgments- Arun Nandagiri	H, MIL, REL
4579				PGR2017-00012 (Exhibit 2001) -Claims Listing	MIL
4580	1/5/2017			PGR2017-00012 (Exhibit 2002)Complaint filed January 5, 2017, in Liqwd, Inc. et al. v. L'Oral USA, Inc., et al., Case No. 1:17-cv-00014-SLR (D. Del.)	MIL
4581	1/18/2017			PGR2017-00012 (Exhibit 2003)Plaintiffs Opening Brief in Support of Motion for Preliminary Injunction, Redacted-Public version, filed January 18, 2017, in Liqwd, Inc. et al. v. L'Oral USA, Inc., et al., Case No. 1:17-cv-0014-SLR (D. Del.)	BE, CP, H, MIL, REL
4582	8/25/2016			PGR2017-00012 (Exhibit 2004) - August 25, 2016 Third Party Submission regarding Singleton U.S. Patent No. 5,221,286 and Berkemer German Laid-Open Application DE 1 220 969	H, MIL
4583	8/29/2016			PGR2017-00012 (Exhibit 2005) - August 29, 2016 Third Party Submission regarding Ogawa U.S. Patent No. 7,044,986	H, MIL
4584	9/14/2016			PGR2017-00012 (Exhibit 2065) - September 14, 2016 Third Party Submission regarding Singleton U.S. Patent No. 5,221,286, Kitabata U.S. Patent Publ. No. 2002/0189034, and Berkemer German Laid-Open Application DE 1 220 969	H, MIL
4585	9/23/2016			PGR2017-00012 (Exhibit 2007) - September 23, 2016 Third Party Submission regarding Wahler PCT Publication No. WO2014/207097	H, MIL
4586	10/13/2016			PGR2017-00012 (Exhibit 2008) - October 13, 2016 Supplemental Notice of Allowance	H, MIL
4587	11/22/2016			PGR2017-00012 (Exhibit 2009) - Complaint filed November 22, 2016, in Liqwd, Inc. et al. v. L'Oral USA, Inc., et al., Case No. 2:16-cv-08708 (C.D. Cal.)	MIL

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4588	7/6/2017			PGR2017-00012 (Exhibit 2011) - Order dated July 6, 2017 denying preliminary injunction in Liqwd, Inc. et al. v. L'Oral USA, Inc., et al., Case No. 1:17-cv-0014-SLR (D. Del.)	H, MIL, REL, 403
4589				PGR2017-00012 (Exhibit 2013) - Advertisements for Copy Products (Matrix Bond Ultim8, L'Oral Professionnel Smartbond, and Redken pH-Bonder) mentioning maleic acid	COMP, MIL
4590	2/13/2017			PGR2017-00012 (Exhibit 2014) - Order dated February 13, 2017 setting discovery in connection with preliminary injunction motion in Liqwd, Inc. et al. v. L'Oral USA, Inc., et al., Case No. 1:17-cv-0014-SLR (D. Del.).	H, MIL, REL
4591	5/2/2017			PGR2017-00012 (Exhibit 2015) - Patent Owners 1st Amended Rule 30(b)(6) Deposition Notice dated May 2, 2017 in Liqwd, Inc. et al. v. L'Oral USA, Inc., et al., Case No. 1:17-cv-0014-SLR (D. Del.)	H, MIL, REL
4592	8/13/2017			PGR2017-00012 (Exhibit 2016) - E-mail string including August 13, 2017 e-mail from Petitioners Lead Counsel refusing to provide additional discovery requested by Patent Owners Counsel.	H, MIL, REL
4593	10/17/2017			PGR2017-00012 (Exhibit 2021) - Declaration of Thomas DISPENZA	H, MIL
4594				PGR2017-00012 (Exhibit 2024) - Ex. 2024 Utility application, filed May 15, 2015 (U.S.S.N. 14/713,885)	MIL
4595	1/17/2017			PGR2017-00012 (Exhibit 2026) - Borish C.V.	MIL, REL
4596	6/19/1905			PGR2017-00012 (Exhibit 2027) - Brown Chapter (1997)	H, MIL
4597	4/24/2013			PGR2017-00012 (Exhibit 2028) - FMC Webinar, The Science of Persulfate Activation (April 24, 2013)	H, MIL
4598	6/23/1905			PGR2017-00012 (Exhibit 2029) - Bolduc, C. et al., Hair Care Products - Waving, Straightening, Conditioning, and Coloring	H, MIL
4599	7/4/1905			PGR2017-00012 (Exhibit 2030) - Robbins Chapter 6 -- Interactions of Shampoo and Conditioner In...	H, MIL

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4600				PGR2017-00012 (Exhibit 2031) - Redken Curvaeous Conditioner Label	MIL
4601				PGR2017-00012 (Exhibit 2032) - Matrix Biolage Advanced Shampoo Label	MIL
4602				PGR2017-00012 (Exhibit 2033) - Pureology Conditioner Label	MIL
4603	1/14/2011			PGR2017-00012 (Exhibit 2034) - Maleic Acid Safety Data Sheet Vertellus 2011	MIL
4604				PGR2017-00012 (Exhibit 2035) - Matrix Bond Ultim8 Bottle Instructions & Ingredients (2016)	MIL
4605				PGR2017-00012 (Exhibit 2036) - Matrix Bond Ultim8 Package Bond Protecting System Directions (Nov. 2016)	MIL
4606	12/16/2016			PGR2017-00012 (Exhibit 2037) - Analyze, Inc. Lab Report re Maleic Acid	MIL
4607				PGR2017-00012 (Exhibit 2041) - Redken pH-BONDER #1 bond protecting additive Instructions and Ingredient List	MIL
4608		OLA_0000027279	OLA_0000027284	PGR2017-00012 (Exhibit 2042) - Redken ph-Bonder Package Instructions	MIL
4609				PGR2017-00012 (Exhibit 2043) - L'Oreal Professionel Smartbond Step 1 Bottle Label	MIL
4610				PGR2017-00012 (Exhibit 2044) - L'Oral Professionnel Smartbond Package Instructions	MIL
4611	7/4/1905			PGR2017-00012 (Exhibit 2045) - Robbins Chapter 5 - Bleaching and Oxidation of Human Hair (Chem...	H, MIL
4612	10/6/2017			PGR2017-00012 (Exhibit 2046) - Nandagiri Deposition Transcript from Oct. 6, 2017	H, MIL
4613	2/28/2018			PGR2017-00012 (Exhibit 2051) - Printout of website http://Brialab.com (dated February 28, 2018)	H, MIL, REL
4614	11/2001			PGR2017-00012 (Exhibit 2052) - H.N. Po et al., The Henderson-Hasselbalch Equation: Its History and Limitation, J. of Chem. Educ., 78 (11):1499-1503 (2001)	H, MIL, REL

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4615	10/12/2017			PGR2017-00012 (Exhibit 2053) - Deposition transcript of David Sherman, dated October 12, 2017 in PGR 201700012	H, MIL
4616	10/11/2017			PGR2017-00012 (Exhibit 2054) - Deposition transcript of Jina Bang, dated October 11, 2017 in PGR 201700012	H, MIL
4617	3/2/2018			PGR2017-00012 (Exhibit 2055) - Deposition transcript of Arun Nandagiri, dated March 2, 2018 in PGR 201700012	H, MIL
4618	3/14/2018			PGR2017-00012 (Exhibit 2057) - Deposition transcript of Arun Nandagiri, dated March 14, 2018 in PGR 201700012	H, MIL
4619	12/27/2017			PGR2017-00012 (Exhibit 2058) - Signature page and errata of Thomas Dispenza for December 27, 2017 deposition transcript	H, MIL
4620	1/22/2018			PGR2017-00012 (Exhibit 2059) - Signature page and errata of Edward Borish, Ph.D. for January 5, 2018 deposition transcript	H, MIL
4621	11/13/2017			PGR2017-00012 (Exhibit 2062) - Patent Owners Submission of Supplemental Evidence Under 37 C.F.R. 42.64(b)(2), served November 13, 2017	H, MIL, REL
4622	11/13/2017			PGR2017-00012 (Exhibit 2063) - Blackburn Declaration Regarding Exhibits 2028, 2031 2037, and 2041 2044, served November 13, 2017	H, MIL
4623				PGR2017-00012 (Exhibit 2064) - Redken pH - BONDER Package Instructions	MIL
4624	9/26/2017			PGR2017-00012 (Exhibit 3002) -	MIL, REL
4625	2/6/2018			PGR2017-00012 (Exhibit 3003) -	MIL, REL, 403
4626	2/1/2018			PGR2018-00025 (Paper 1) - LOREAL USA, INC.'s POWER OF ATTORNEY	MIL, REL
4627	2/1/2018			PGR2018-00025 (Paper 2) -MOTION TO SEAL PETITION AND RELATED EXHIBITS 1036 AND 1037 AND FOR PROTECTIVE ORDER	H, MIL, REL

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4628	2/1/2018			PGR2018-00025 (Paper 4) -Redacted PETITION FOR POST-GRANT REVIEW OF U.S. PATENT 9,668,954	BE, CP, H, MIL, REL, 403
4629	2/21/2018			PGR2018-00025 (Paper 5) -Notice of Accord Filing Date	MIL, REL
4630	2/22/2018			PGR2018-00025 (Paper 6) -Patent Owner Rule 42.10(b) Power of Attorney	MIL, REL
4631	2/22/2018			PGR2018-00025 (Paper 7) -Patent Owner Rule 42.8(a)(2) Mandatory Notices	H, MIL, REL
4632	4/20/2018			PGR2018-00025 (Paper 8) -Patent Owner Updated 42.8(a)(3) and (b)(2) Mandatory Disclosures	H, MIL, REL
4633	7/12/2018			PGR2018-00025 (Paper 10) -Petitioners Updated Mandatory Notices	H, MIL, REL
4634	8/24/2018			PGR2018-00025 (Paper 14) -Patent Owner Rule 42.64(b)(1) Evidence Objections	H, MIL, REL
4635	8/24/2018			PGR2018-00025 (Paper 15) -Petitioners Objections to Patent Owners Evidence	H, MIL, REL
4636	10/2/2018			PGR2018-00025 (Paper 16) -ORDER Conduct of the Proceeding	H, MIL, REL
4637	10/10/2018			PGR2018-00025 (Paper 17) -PETITIONERS UPDATED EXHIBIT LIST	H, MIL, REL
4638	10/10/2018			PGR2018-00025 (Paper 18) -STIPULATION AND PROPOSED MODIFIED PROTECTIVE ORDER	H, MIL, REL
4639	10/12/2018			PGR2018-00025 (Paper 19) -Patent Owner Notice of Deposition of R. Randall Wickett, Ph.D.	MIL, REL
4640	10/12/2018			PGR2018-00025 (Paper 20) -Patent Owner Amended Notice of Deposition of R. Randall Wickett, Ph.D.	MIL, REL
4641	10/17/2018			PGR2018-00025 (Paper 21) -Granting Parties' Request For Modified Protective Order 35 U.S.C. § 326; 37 C.F.R. §§ 42.14, 42.54	MIL, REL
4642	10/30/2018			PGR2018-00025 (Paper 22) -Order Conduct of the Proceeding	H, MIL, REL
4643	11/20/2018			PGR2018-00025 (Paper 24) -Patent Owner's Motion to Seal (1) Patent Owner's Response (Paper 23) and (2) Related Exhibits 2046, 2061, and 2067-2072	H, MIL, REL

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4644	11/21/2018			PGR2018-00025 (Paper 25) -Patent Owner's Updated Exhibit List	H, MIL, REL
4645	11/26/2018			PGR2018-00025 (Paper 26) -Petitioners Objections to Patent Owners Evidence	H, MIL, REL
4646	12/12/2018			PGR2018-00025 (Paper 27) -Joint Statement to the Board for December 13, 2018 Conference	H, MIL, REL, 403
4647	12/14/2018			PGR2018-00025 (Paper 28) -ORDER - Conduct of the Proceeding; Granting Petitioner Authorization to File Motion 37 C.F.R. 42.5; 37 C.F.R. 42.20(b)	H, MIL, REL, 403
4648	12/21/2018			PGR2018-00025 (Paper 29) -Joint Stipulation Regarding Protective Order Violations	H, MIL, REL, 403
4649	12/21/2018			PGR2018-00025 (Paper 30) -Petitioner's Updated Exhibit List	H, MIL, REL
4650	12/21/2018			PGR2018-00025 (Paper 31) -Petitioner's Notice of Deposition of Edward Borish, Ph.D.	MIL, REL
4651	12/21/2018			PGR2018-00025 (Paper 32) -Petitioner's Notice of Deposition of Dean Christal	MIL, REL
4652	1/7/2019			PGR2018-00025 (Paper 33) -Order - Conduct of the Proceeding Granting Petitioner Authorization to File Motion for Additional Discovery	H, MIL, REL
4653	1/7/2019			PGR2018-00025 (Paper 34) -Petitioners Request for Additional Discovery	H, MIL, REL
4654	1/9/2019			PGR2018-00025 (Paper 35) -Petitioners Updated Exhibit List	H, MIL, REL
4655	1/10/2019			PGR2018-00025 (Paper 36) -Petitioner's Contingent Notice of Deposition of Eric Pressly	MIL, REL
4656	1/10/2019			PGR2018-00025 (Paper 37) -Petitioner's Updated Notice of Deposition of Edward Borish	MIL, REL
4657	1/10/2019			PGR2018-00025 (Paper 38) -Petitioner's Updated Notice of Deposition of Dean Christal	MIL, REL
4658	1/14/2019			PGR2018-00025 (Paper 39) -Patent Owner's Opposition to Petitioner's Motion for Additional Discovery	H, MIL, REL

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4659	1/17/2019			PGR2018-00025 (Paper 40) -Patent Owner's Opposition to Petitioner's Motion for Additional Discovery	H, MIL, REL
4660	1/18/2019			PGR2018-00025 (Paper 41) -Petitioner's Reply in Support Of Petitioners Motion for Additional Discovery Under 37 C.F.R. 42.51(B)(2)	H, MIL, REL
4661	1/25/2019			PGR2018-00025 (Paper 42) -Decision Granting Petitioners Motion for Additional Discovery.	H, MIL, REL, 403
4662	1/25/2019			PGR2018-00025 (Paper 43) -PETITIONERS NOTICE OF DEPOSITION OF ERIC PRESSLY	MIL, REL
4663	2/15/2019			PGR2018-00025 (Paper 44) -Petitioner's updated Exhibit List	H, MIL, REL
4664	2/15/2019			PGR2018-00025 (Paper 45) -Motion to Seal Petitioner's Reply and Related Exhibits	H, MIL, REL
4665	2/22/2019			PGR2018-00025 (Paper 47) -Petitioner's Updated Exhibit List	H, MIL, REL
4666	2/25/2019			PGR2018-00025 (Paper 48) -Patent Owner Liqwd, Inc's Objections to Petitioner's Reply Evidence under 37 CFR 42.64 (b)(1)	H, MIL, REL
4667	2/26/2019			PGR2018-00025 (Paper 49) -Patent Owner Liqwd, Inc.'s Notice of Deposition of R. Randall Wickett, Ph.D.	MIL, REL
4668	2/27/2019			PGR2018-00025 (Paper 50) -Petitioner's Updated Exhibit List	H, MIL, REL
4669	3/7/2019			PGR2018-00025 (Paper 51) -Order - Conduct of the Proceeding - 37 CFR 42.5	H, MIL, REL
4670	3/11/2019			PGR2018-00025 (Paper 52) -Petitioner's Supplemental Brief on 37 C.F.R. 42.23(b)	H, MIL, REL
4671	3/18/2019			PGR2018-00025 (Paper 53) -Patent Owner's Supplemental Brief regarding 37 C.F.R. 42.23(b)	H, MIL, REL
4672	3/22/2019			PGR2018-00025 (Paper 54) -Patent Owner's Oral Hearing Request	H, MIL, REL
4673	3/22/2019			PGR2018-00025 (Paper 57) -Petitioner Request for Oral Argument	H, MIL, REL

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4674	3/26/2019			PGR2018-00025 (Paper 59) -Patent Owner's Motion to Seal Papers 55 and 56 and Exhibit 2080	H, MIL, REL
4675	3/26/2019			PGR2018-00025 (Paper 60) -Patent Owner's Authorized Sur-Reply to Petitioner's Reply	H, MIL, REL
4676	3/29/2019			PGR2018-00025 (Paper 62) -Motion to Seal Petitioner's Motion to Exclude Evidence Pursuant to 37 C.F.R. 42.64(c)	H, MIL, REL
4677	3/29/2019			PGR2018-00025 (Paper 63) -Petitioner's Objections to Patent Owners Evidence	H, MIL, REL
4678	3/29/2019			PGR2018-00025 (Paper 64) -Opposition to Patent Owner's Motion to Exclude Evidence	H, MIL, REL, 403
4679	3/29/2019			PGR2018-00025 (Paper 65) -Petitioner's Response to Patent Owner's Motion for Observations	H, MIL, REL
4680	4/1/2019			PGR2018-00025 (Paper 66) -Order Authorizing filling of Crim Deposition	H, MIL, REL
4681	4/3/2019			PGR2018-00025 (Paper 68) -ORDER Granting Request for Oral Argument	H, MIL, REL
4682	4/3/2019			PGR2018-00025 (Paper 69) -Liqwd's Motion to Seal Exhibit 2084	H, MIL, REL
4683	4/3/2019			PGR2018-00025 (Paper 70) -Patent Owner's Updated Exhibit List	H, MIL, REL
4684	4/4/2019			PGR2018-00025 (Paper 71) -Patent Owner's Updated Exhibit List	H, MIL, REL
4685	4/4/2019			PGR2018-00025 (Paper 72) -Petitioner's Updated Exhibit List.	H, MIL, REL
4686	4/4/2019			PGR2018-00025 (Paper 75) -Order Granting Request for Oral Argument	H, MIL, REL
4687	6/6/2017			PGR2018-00025 (Exhibit 1001) - U.S. Patent No. 9,668,954 to Pressly	No Objection
4688				PGR2018-00025 (Exhibit 1003) - German Patent Publication DE 1220969	H, MIL
4689				PGR2018-00025 (Exhibit 1004) - Certified translation of German Patent Publication DE 1220969 (Berkemer)	H, MIL

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4690				PGR2018-00025 (Exhibit 1005) - Korean Patent Publication KR2006-0059564	H, MIL
4691	6/2/2006			PGR2018-00025 (Exhibit 1006) - Certified translation of Korean Patent Publication KR2006-0059564 (KR564)	H, MIL, REL
4692	3/19/2002			PGR2018-00025 (Exhibit 1007) - U.S. Patent No. 6,358,502 to Tanabe	H, MIL
4693	2/7/2013			PGR2018-00025 (Exhibit 1008) - U.S. Patent Publication No. 2013/0034515 to Stone	H, MIL
4694	2/2/2012			PGR2018-00025 (Exhibit 1009) - U.S. Patent Publication No. 2012/0024309 to Pratt	H, MIL
4695	5/16/2006			PGR2018-00025 (Exhibit 1010) - U.S. Patent No. 7,044,986 to Ogawa	H, MIL
4696	6/28/1905			PGR2018-00025 (Exhibit 1011) - Thomas Clausen et al., Hair Preparations	H, MIL
4697	1/31/2018			PGR2018-00025 (Exhibit 1012) - DECLARATION OF R. RANDALL WICKETT, PH.D.	H, MIL
4698				PGR2018-00025 (Exhibit 1013) - Curriculum Vitae of R. Randall Wickett, Ph.D.	H, MIL, REL
4699	6/9/2011			PGR2018-00025 (Exhibit 1015) - Y. K. Kammath & C. Robbins, Hair breakage by combing and brushingA comment on: T. A. Evans and K. Park, A statistical analysis of hair Breakage. II. Repeated Grooming Experiments	H, MIL
4700	7/1/1905			PGR2018-00025 (Exhibit 1017) - RR Wickett & J Jachowicz, Measuring Hair in Handbook of Cosmetic Science and Technology, 694-724 (Andre O. Barel et al. eds., 3d ed. 2009)	H, MIL
4701				PGR2018-00025 (Exhibit 1020) - Provisional Application 61/994,709	MIL
4702	6/14/1905			PGR2018-00025 (Exhibit 1023) - CTFA Cosmetic Ingredient Handbook (John A. Wenninger et al. eds., 2d ed. 1992)	CP, H, MIL

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4703	2009			PGR2018-00025 (Exhibit 1025) - Trefor A. Evans, Fatigue testing of hairA statistical approach to hair breakage, 60 J. Cosmet. Sci. 599-616 (2009)	H, MIL, REL
4704	1991			PGR2018-00025 (Exhibit 1027) - Daniel C. Harris, Quantitative Chemical Analysis (3d ed. 1991)	H, MIL
4705				PGR2018-00025 (Exhibit 1028) - Korean Patent Publication KR2003-0003970	H, MIL
4706	1/14/2003			PGR2018-00025 (Exhibit 1029) - Certified Translation of Korean Patent Publication KR2003-0003970	H, MIL
4707				PGR2018-00025 (Exhibit 1030) - As-filed specification of U.S. Patent Application No. 14/713,885	MIL
4708				PGR2018-00025 (Exhibit 1031) - As-filed specification of U.S. Patent Application No. 15/087,415	MIL
4709				PGR2018-00025 (Exhibit 1032) - As-filed specification of U.S. Patent Application No. 15/290,593	MIL
4710				PGR2018-00025 (Exhibit 1033) - As-filed specification of U.S. Patent Application No. 15/415,464	MIL
4711	6/22/1993			PGR2018-00025 (Exhibit 1034) - U.S. Patent No. 5,221,286 to Singleton	H, MIL
4712	12/31/2014			PGR2018-00025 (Exhibit 1035) - PCT Publication WO 2014/207097 to Wahler	H, MIL
4713	12/13/2017			PGR2018-00025 (Exhibit 1038) - Transcript of Deposition of Thomas Dispenza	H, MIL
4714	1/5/2018			PGR2018-00025 (Exhibit 1039) - Transcript of Deposition of Edward T. Borish, Ph.D	H, MIL
4715	2/20/2007			PGR2018-00025 (Exhibit 1041) - U.S. Patent No. 7,179,302	H, MIL
4716	1/10/1978			PGR2018-00025 (Exhibit 1042) - U.S. Patent No. 4,067,345	H, MIL
4717	2/6/1979			PGR2018-00025 (Exhibit 1043) - U.S. Patent No. 4,138,478	H, MIL
4718	2/5/2015			PGR2018-00025 (Exhibit 1044) - U.S. Patent Publication No. 2015/0034119	H, MIL

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4719	1/23/2018			PGR2018-00025 (Exhibit 1045) - Table 3.4, pKa values of some amino acids - Biochemistry NCBI Bookshelf	CP, H, MIL
4720				PGR2018-00025 (Exhibit 1046) - C.R. Robbins, Chemical and Physical Behavior of Human Hair, DOI 10.1007/978-3-642-25611-0_2, # Springer-Verlag Berlin Heidelberg 2012	H, MIL
4721	9/27/2018			PGR2018-00025 (Exhibit 1047) - Transcript of September 27, 2018 Teleconference	H, MIL, REL
4722				PGR2018-00025 (Exhibit 1048) - Public version of Exhibit 1036- Laboratory Notebook	BE, CP, H, MIL, REL, 403
4723	12/6/2018			PGR2018-00025 (Exhibit 1049) - Transcript of December 6, 2018, Teleconference	H, MIL, REL
4724	12/13/2018			PGR2018-00025 (Exhibit 1050) - Transcript of December 13, 2018, Teleconference	H, MIL, REL
4725	1/4/2019			PGR2018-00025 (Exhibit 1051) - Ex. 1051 Teleconference_01042019	H, MIL, REL
4726	10/8/2015			PGR2018-00025 (Exhibit 1052) - Olaplex Facebook Post- A Letter from Dean Christal	H, MIL, REL
4727	1/29/2019			PGR2018-00025 (Exhibit 1055) - Transcript of Deposition of Eric Pressly, Ph.D	H, MIL, REL
4728	1/29/2019			PGR2018-00025 (Exhibit 1056) - Affidavit of Jeffrey Jaime	H, MIL, REL, 403
4729	1/29/2019			PGR2018-00025 (Exhibit 1057) - Affidavit of Jose Manuel M. Martinez	H, MIL, REL, 403
4730	1/29/2019			PGR2018-00025 (Exhibit 1058) - Affidavit of Anthony Fuller	H, MIL, REL, 403
4731				PGR2018-00025 (Exhibit 1059) - MINTEL database entry- Be Your Mood Permanent Hair Colour	FO, H, MIL
4732				PGR2018-00025 (Exhibit 1060) - MINTEL database entry- Catzy Hair Colourant	FO, H, MIL

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4733	6/19/1905			PGR2018-00025 (Exhibit 1063) - V. Signori & D.M. Lewis, FTIR investigation of the damage produced on human hair by weathering and bleaching processes: implementation of different sampling techniques and data processing, 19 Intl J. Cosmetic Sci. 1, 1-13 (1997).	H, MIL
4734	1/30/2019			PGR2018-00025 (Exhibit 1064) - Email string regarding scheduling of deposition of Eric Pressly, Ph.D.	H, MIL, REL
4735	7/4/1905			PGR2018-00025 (Exhibit 1065) - Practical Modern Hair Science i-ii, 117-156 (Trefor Evans & R. Randall Wickett eds., 2012).	H, MIL
4736	2/15/2019			PGR2018-00025 (Exhibit 1066) - REDACTED_Petitioner's Reply to Patent Owner Response	BE, CP, H, MIL, REL
4737	2/15/2019			PGR2018-00025 (Exhibit 1067) - REDACTED Version of Exhibit 1062-Reply Declaration of R. Randall Wickett, Ph.D	BE, H, MIL
4738	2/1/2019			PGR2018-00025 (Exhibit 1068) - Redacted version of Exhibit 1053-Transcript of Deposition of Edward T. Borish, Ph.D	BE, H, MIL
4739	3/22/2019			PGR2018-00025 (Exhibit 1073) - Redacted Version of Paper 58- Petitioner's Motion to Exclude Evidence Pursuant to 37 C.F.R. 42.64(c)	BE, CP, H, MIL, REL
4740				PGR2018-00025 (Exhibit 2001) -Listing of claims 1-16 and 18-30 of U.S. Patent No. 9,668,954	MIL
4741	11/22/2016			PGR2018-00025 (Exhibit 2002) -Pressly et al. U.S. Patent No. 9,498,419	MIL
4742	1/16/2018			PGR2018-00025 (Exhibit 2003) -Liqwd v. L'Oreal Federal Circuit decision, dated January 26, 2018	MIL, REL, 403
4743	4/26/2018			PGR2018-00025 (Exhibit 2004) -Liqwd v. L'Oreal UK Trial Testimony (day 3)	CP, MIL, REL
4744	1997			PGR2018-00025 (Exhibit 2005) -Brown Chapter 7 (1997)	H, MIL
4745	2001			PGR2018-00025 (Exhibit 2006) -Bolduc Article (2001)	H, MIL

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4746	2012			PGR2018-00025 (Exhibit 2007) -Robbins Chapter 5 (2012)	H, MIL
4747	12/19/2002			PGR2018-00025 (Exhibit 2008) -Kitabata U.S. Patent Publ.	H, MIL
4748	7/4/1905			PGR2018-00025 (Exhibit 2009) -Robbins Chapter 9 (2012)	H, MIL
4749				PGR2018-00025 (Exhibit 2010) -Joico bleach powder label	MIL
4750				PGR2018-00025 (Exhibit 2011) -Clairol Professional Basic White bleach powder label	MIL
4751	2/17/2011			PGR2018-00025 (Exhibit 2012) -Onyebuagu et al. U.S. Patent Publ. 2011-0038818	H, MIL
4752	3/31/2016			PGR2018-00025 (Exhibit 2013) -March 31, 2016 Prel. Amdt. from '415 application file history	H, MIL
4753	1/24/2017			PGR2018-00025 (Exhibit 2014) -January 24, 2017 Prel. Amdt. from '593 application file history	H, MIL
4754	8/25/2016			PGR2018-00025 (Exhibit 2017) -August 25, 2016 Third Party Submission from '415 application file history	H, MIL
4755	9/14/2016			PGR2018-00025 (Exhibit 2018) -September 14, 2016 Third Party Submission from '415 application file history	H, MIL
4756	12/12/2017			PGR2018-00025 (Exhibit 2019) -December 12, 2017 Certificate of Correction	MIL
4757	9/26/2016			PGR2018-00025 (Exhibit 2020) -September 26, 2016 Notice of Allowance from '415 application file history	H, MIL
4758	1/30/2017			PGR2018-00025 (Exhibit 2021) -Arun Nandagiri declaration dated January 30, 2017 from PGR2017-00012	H, MIL
4759	7/4/1905			PGR2018-00025 (Exhibit 2022) -Robbins Chapter 6 (2012)	H, MIL
4760				PGR2018-00025 (Exhibit 2024) -Matrix Light Master bleach label	MIL

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4761				PGR2018-00025 (Exhibit 2025) -Redken Flash Lift bleach label	MIL
4762				PGR2018-00025 (Exhibit 2026) -Redken Up to 7 bleach label	MIL
4763				PGR2018-00025 (Exhibit 2027) -L'Oreal Quick Blue bleach label	MIL
4764	2010			PGR2018-00025 (Exhibit 2028) -Evans article (Nov./Dec. 2010)	H, MIL
4765	1/31/2018			PGR2018-00025 (Exhibit 2031) -Wickett Declaration dated January 31, 2018 from PGR2018-00023	H, MIL
4766				PGR2018-00025 (Exhibit 2032) - Borish Curriculum Vitae	MIL, REL
4767	2005			PGR2018-00025 (Exhibit 2033) -Zviak/Millquant Chapter 7: Hair Bleaching from THE SCIENCE OF HAIR CARE (Bouillon C, Wilkinson J, eds., 2d edn. 2005).	H, MIL
4768				PGR2018-00025 (Exhibit 2034) - Felthouse et al, Maleic Anhydride, Maleic Acid, and Fumaric Acid from the KIRKOTHEMER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY (first published October 18, 2001)	H, MIL
4769	3/5/2007			PGR2018-00025 (Exhibit 2035) - Final Report on the Safety Assessment of Maleic Acid, Intl J. of Toxicology, 26 (Suppl. 2):125130 (2007)	H, MIL
4770	1/14/2011			PGR2018-00025 (Exhibit 2036) - Maleic Acid Safety Data Sheet Vertellus (2011)	MIL
4771	10/20/2015			PGR2018-00025 (Exhibit 2037) - October 20, 2015 Interview Summary from 885 appl. file history	H, MIL
4772	10/26/2015			PGR2018-00025 (Exhibit 2038) - October 29, 2015 Pressly declaration from 885 appl. file history	H, MIL
4773	12/28/2015			PGR2018-00025 (Exhibit 2039) - December 28, 2015 Notice of Allowance from 885 appl. file history	H, MIL
4774	8/6/2018			PGR2018-00025 (Exhibit 2040) - August 6, 2018 Amendment from 455 appl. file history.	H, MIL
4775	8/3/2018			PGR2018-00025 (Exhibit 2041) - August 6, 2018 Pressly Declaration from 455 application file history	H, MIL

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4776	8/10/2018			PGR2018-00025 (Exhibit 2042) - August 10, 2017 Notice of Allowance from 455 application file history	H, MIL
4777	10/18/2018			PGR2018-00025 (Exhibit 2043) -Excerpt from YOUTUBE video entitled How Does SMARTBOND technology work? By L'Oral Professionnel, available at: https://youtu.be/LMyB5fiel1g?t=31 [last visited 10/18/2018]	MIL
4778				PGR2018-00025 (Exhibit 2044) - Redken pH-Bonder Technical Guide (August 2016)	MIL
4779				PGR2018-00025 (Exhibit 2045) - Matrix Bond Ultim8 Techniques Guide	MIL
4780				PGR2018-00025 (Exhibit 2047) -Matrix Bond Ultim8 bottle instructions	MIL
4781				PGR2018-00025 (Exhibit 2048) -Matrix Bond Ultim8 package instructions	MIL
4782	12/16/2016			PGR2018-00025 (Exhibit 2049) - Lab Report from Analyze, Inc.	MIL
4783				PGR2018-00025 (Exhibit 2050) - Redken pH-Bonder bottle instructions	MIL
4784				PGR2018-00025 (Exhibit 2051) -Redken pH-Bonder package instructions	MIL
4785				PGR2018-00025 (Exhibit 2052) - L'Oral Professionnel Smartbond bottle instructions	MIL
4786				PGR2018-00025 (Exhibit 2053) - L'Oral Professionnel Smartbond package instructions	MIL
4787	9/18/2018			PGR2018-00025 (Exhibit 2054) - Pressly et al. U.S. Patent No. 10,076,478	MIL
4788	1981			PGR2018-00025 (Exhibit 2055) - Wolfram, The Reactivity of Human Hair. A Review in HAIR RESEARCH (1981)	H, MIL
4789	2005			PGR2018-00025 (Exhibit 2056) - Dubief et al., Chapter 4 Hair Care Products from THE SCIENCE OF HAIR CARE (Bouillon C, Wilkinson J, eds., 2d edn. 2005).	H, MIL

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4790	10/6/2017			PGR2018-00025 (Exhibit 2057) - Deposition Transcript of Arun Nandagiri dated October 6, 2017 from PGR201700012	H, MIL
4791	6/2/2018			PGR2018-00025 (Exhibit 2058) - Types of Professional Haircolor Services (Redken), https://www.redken.com/haircolor/types-of-professional-haircolor-services (obtained June 2, 2018)	H, MIL
4792	1998			PGR2018-00025 (Exhibit 2059) - Corbett, Hair Colorants: Chemistry and Toxicology, Cosmetic Science Monographs Number 2 (1998)	H, MIL
4793	1976			PGR2018-00025 (Exhibit 2060) -Corbett, The Chemistry of Hair-care Products, J. Socy of Dyers and Colourists 92(8):285303 (1976)	H, MIL
4794	2005			PGR2018-00025 (Exhibit 2062) - Franbourg et al., Chapter 12 Evaluation of Product Efficacy from THE SCIENCE OF HAIR CARE (Bouillon C, Wilkinson J, eds., 2d edn. 2005).	H, MIL
4795	2007			PGR2018-00025 (Exhibit 2063) - Harris, Chapter 9, Monoprotic Acid-Base Equilibria from QUANTITATIVE CHEMICAL ANALYSIS (7th ed. 2007).	H, MIL
4796	10/24/2018			PGR2018-00025 (Exhibit 2064) -Public Version of October 24, 2018 Wickett Deposition Transcript	BE, H, MIL
4797				PGR2018-00025 (Exhibit 2065) -CRC Handbook of Chemistry & Physics (85th Ed. 2005)	CP, H, MIL, REL
4798	2007			PGR2018-00025 (Exhibit 2066) -Harris, Chapter 10, Polyprotic Acid-Base Equilibria from QUANTITATIVE CHEMICAL ANALYSIS (7th ed. 2007).	H, MIL
4799	1/10/2019			PGR2018-00025 (Exhibit 2076) - O'Brien Email dated January 10, 2019	H, MIL, REL
4800	8/29/2017			PGR2018-00025 (Exhibit 2077) -Certified English Translation of Omitted Text from Ex. 1005	H, MIL
4801				PGR2018-00025 (Exhibit 2078) -Prior Ex. 1018 from PGR2017-00012 (2nd KR'564 Translation)	H, MIL

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4802	10/11/2017			PGR2018-00025 (Exhibit 2079) -Bang Deposition transcript dated October 11, 2017 from PGR2017-00012	H, MIL
4803	3/22/2019			PGR2018-00025 (Exhibit 2081) -REDACTED Liqwd Motion to Exclude Petitioner Evidence (Sealed in Paper 55)	BE, CP, H, MIL, REL
4804	3/22/2019			PGR2018-00025 (Exhibit 2082) -REDACTED Liqwd Motion for Observations on Cross-Examination of Dr. Wickett (Sealed is Paper 56)	BE, CP, H, MIL, REL
4805	3/15/2019			PGR2018-00025 (Exhibit 2083) -REDACTED version of Wickett Deposition transcript dated March 15, 2019	BE, H, MIL
4806				https://olaplex.com/pages/patents	REL; MIL
4807				https://www.arsova.com/products	REL; H; FO
4808	3/24/2017			PLAINTIFFS' SUPPLEMENTAL OBJECTIONS AND RESPONSES TO DEFENDANTS' FIRST SET OF INTERROGATORIES (NOS. 1-3)	H; REL; FO
4809	4/26/2018			PLAINTIFFS' OBJECTIONS AND RESPONSES TO DEFENDANTS' SECOND SET OF INTERROGATORIES RELATED TO MOTION FOR PRELIMINARY INJUNCTION(NOS. 4-6)	H; REL; FO
4810	4/3/2018			PLAINTIFFS' FIRST SUPPLEMENTAL OBJECTIONS AND RESPONSE TO DEFENDANTS' FIFTH INTERROGATORY	H; REL; FO
4811	5/7/2018			PLAINTIFFS' FIRST SUPPLEMENTAL OBJECTIONS AND RESPONSE TO DEFENDANTS' INTERROGATORY NO. 6	H; REL; FO
4812	5/13/2018			PLAINTIFFS' SECOND SUPPLEMENTAL OBJECTIONS AND RESPONSE TO DEFENDANTS' FIFTH INTERROGATORY	H; REL; FO
4813	7/20/2018			PLAINTIFFS' SUPPLEMENTAL OBJECTIONS AND RESPONSES TO DEFENDANTS' FOURTH AND SIXTH INTERROGATORIES	H; REL; FO
4814	8/29/2018			PLAINTIFFS' THIRD SUPPLEMENTAL OBJECTIONS AND RESPONSE TO DEFENDANTS' FIFTH INTERROGATORY	H; REL; FO

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4815	11/13/2018			PLAINTIFFS' FOURTH SUPPLEMENTAL OBJECTIONS AND RESPONSE TO DEFENDANTS' FIFTH INTERROGATORY	H; REL; FO
4816	10/30/2018			PLAINTIFFS' OBJECTIONS AND RESPONSES TO DEFENDANTS' THIRD SET OF INTERROGATORIES (NOS. 7-20)	H; REL; FO
4817	1/4/2019			PLAINTIFFS' SUPPLEMENTAL OBJECTIONS AND RESPONSES TO DEFENDANTS' THIRD SET OF INTERROGATORIES (NO. 13)	H; REL; FO
4818	2/15/2019			PLAINTIFFS' SUPPLEMENTAL OBJECTIONS AND RESPONSES TO DEFENDANTS' THIRD SET OF INTERROGATORIES NOS. 7, 9, 10, 16, 18 AND 20	H; REL; FO
4819	2/22/2019			PLAINTIFFS' SUPPLEMENTAL OBJECTIONS AND RESPONSES TO DEFENDANTS' THIRD SET OF INTERROGATORIES NOS. 11, 13, 14, 15 AND 17	H; REL; FO
4820	1/4/2019			PLAINTIFFS' OBJECTIONS AND RESPONSES TO DEFENDANTS' FOURTH SET OF INTERROGATORIES (NOS. 21-25)	H; REL; FO
4821	1/4/2019			PLAINTIFFS' OBJECTIONS AND RESPONSES TO DEFENDANTS' FIRST SET OF REQUESTS FOR ADMISSION (NOS. 1-50)	H; REL; FO
4822	2/15/2019			PLAINTIFFS' FIRST SUPPLEMENTAL OBJECTIONS AND RESPONSES TO DEFENDANTS' FIRST SET OF REQUESTS FOR ADMISSION NOS. 19, 20 AND 44-46	H; REL; FO
4823	2/22/2019			PLAINTIFFS' SUPPLEMENTAL OBJECTIONS AND RESPONSES TO DEFENDANTS' FIRST SET OF REQUESTS FOR ADMISSION NOS. 8, 9, 33, 34 & 47	H; REL; FO
4824	12/13/2016	LO_USA0072099	LO_USA0072101	December 13, 2016, Chem.Info article by Meagan Parrish	H; FO; REL
4825				Claim Chart A: Ogawa ('419 Patent (claims 1, 10))	FO, H

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4826				Claim Chart A-1: Ogawa in view of Berkemer and KR '564 ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4827				Claim Chart A-2: Ogawa in view of Berkemer, KR '564, and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4828				Claim Chart A-3: Ogawa in view of Berkemer, KR '564, and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4829				Claim Chart A-4: Ogawa in view of Berkemer, KR '564, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4830				Claim Chart A-5: Ogawa in view of Berkemer, KR '564, Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4831				Claim Chart B-1: Kim in view of Ogawa ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4832				Claim Chart B-2: Kim in view of Ogawa and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4833				Claim Chart B-3: Kim in view of Ogawa and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4834				Claim Chart B-4: Kim in view of Ogawa, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4835				Claim Chart B-5: Kim in view of Ogawa, Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4836				Claim Chart C-1: Kitabata in view of Berkemer and KR '564 ('419 patent (claims 1,10))	FO, H, BE, 403
4837				Claim Chart C-2: Kitabata in view of Singleton and Berkemer ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4838				Claim Chart C-3: Kitabata in view of Singleton, Berkemer, and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4839				Claim Chart C-4: Kitabata in view of Singleton, Berkemer, and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4840				Claim Chart C-5: Kitabata in view of Singleton, Berkemer, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403

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4841				Claim Chart C-6: Kitabata in view of Singleton, Berkemer, Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4842				Claim Chart C-7: Kitabata in view of Dasher and Robbins ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4843				Claim Chart C-8: Kitabata in view of Dasher, Robbins , and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4844				Claim Chart C-9: Kitabata in view of Dasher, Robbins , and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4845				Claim Chart C-10: Kitabata in view of Dasher, Robbins , Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4846				Claim Chart C-11: Kitabata in view of Dasher, Robbins , Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4847				Claim Chart D-1: Pratt in view of Tanabe (or further in view of Berkemer and KR '564 ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11-13, 19, 30))	FO, H, BE, 403
4848				Claim Chart D-2: Pratt in view of Tanabe and Evans (or further in view of Berkemer and KR '564) ('954 patent (claims 14-16, 24-26))	FO, H, BE, 403
4849				Claim Chart D-3: Pratt in view of Tanabe and Stone (or further in view of Berkemer and KR '564) ('954 patent (claim 20))	FO, H, BE, 403
4850				Claim Chart E-1: Wahler in view of Dasher and Robbins ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30)) - Priority chart for Wahler (FR '138 and FR '139)	FO, H, BE, 403
4851				Claim Chart E-2: Wahler in view of Dasher, Robbins , and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4852				Claim Chart E-3: Wahler in view of Dasher, Robbins , and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4853				Claim Chart E-4: Wahler in view of Dasher, Robbins , Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403

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4854				Claim Chart E-5: Wahler in view of Dasher, Robbins , Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4855				Claim Chart E-6: Wahler in view of Dasher and Hawker ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4856				Claim Chart E-7: Wahler in view of Dasher, Hawker, and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4857				Claim Chart E-8: Wahler in view of Dasher, Hawker, and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4858				Claim Chart E-9: Wahler in view of Dasher, Hawker, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4859				Claim Chart E-10: Wahler in view of Dasher, Hawker, Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4860				Claim Chart F-1: Cotteret in view of Ogawa and Singleton ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4861				Claim Chart F-2: Cotteret in view of Ogawa, Singleton, and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4862				Claim Chart F-3: Cotteret in view of Ogawa, Singleton, and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4863				Claim Chart F-4: Cotteret in view of Ogawa, Singleton, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4864				Claim Chart F-5: Cotteret in view of Ogawa, Singleton, Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4865				Claim Chart G-1: Anderson in view of Pratt and Robbins ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4866				Claim Chart G-2: Anderson in view of Pratt, Robbins, and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4867				Claim Chart G-3: Anderson in view of Pratt, Robbins, and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403

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4868				Claim Chart G-4: Anderson in view of Pratt, Robbins, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4869				Claim Chart G-5: Anderson in view of Pratt, Robbins , Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4870				Claim Chart H-1: Flohr in view of Pratt and Robbins ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4871				Claim Chart H-2: Flohr in view of Pratt, Robbins, and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4872				Claim Chart H-3: Flohr in view of Pratt, Robbins, and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4873				Claim Chart H-4: Flohr in view of Pratt, Robbins, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4874				Claim Chart H-5: Flohr in view of Pratt, Robbins , Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4875				Claim Chart H-6: Flohr in view of Kitabata and Robbins ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4876				Claim Chart H-7: Flohr in view of Kitabata, Robbins, and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4877				Claim Chart H-8: Flohr in view of Kitabata, Robbins, and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403
4878				Claim Chart H-9: Flohr in view of Kitabata, Robbins, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4879				Claim Chart H-10: Flohr in view of Kitabata, Robbins , Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4880				Claim Chart I-1: DeGeorge in view of Berkemer and KR '564 ('419 patent (claims 1,10), '954 patent (claims 1, 4, 11, 30))	FO, H, BE, 403
4881				Claim Chart I-2: DeGeorge in view of Berkemer, KR '564, and Evans ('954 patent (claims 24-26))	FO, H, BE, 403
4882				Claim Chart I-3: DeGeorge in view of Berkemer, KR '564, and Tanabe ('954 patent (claims 12, 13, 19))	FO, H, BE, 403

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
4883				Claim Chart I-4: DeGeorge in view of Berkemer, KR '564, Tanabe, and Evans ('954 patent (claims 14-16))	FO, H, BE, 403
4884				Claim Chart I-5: DeGeorge in view of Berkemer, KR '564, Tanabe, and Stone ('954 patent (claim 20))	FO, H, BE, 403
4885	5/9/2016	LO_USA0040736	LO_USA0040737	Email from F. Boulineau to C. Goget, D. Bethelmy-Rada, and L. Vandall, dated May 9, 2016 re: Hot for AM- Maleic Acid Function	H; FO
4886		LO_USA0008653	LO_USA0008653	Composition of raw materials of 1200591	H; FO; CP; AU
4887		LO_USA0008677	LO_USA0008677	Composition of raw materials of 1112405	H; FO; CP; AU
4888				Ethanolamine, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/Ethanolamine#section=3D-Conformer	DIS; H; FO; REL; 403
4889				Citric Acid, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/citric_acid	DIS; H; FO; REL; 403
4890	6/16/2016	LO_USA0008607	LO_USA0008621	Officialization International except Japan and South Korea, Redken pH Bonder Step	No objection
4891	6/16/2016	LO_USA0008630	LO_USA0008644	Officialization International except Japan and South Korea, Matrix Bond Ultim8 Step 1	No objection
4892	10/2/2017	LO_USA0008654	LO_USA0008658	Officialization International L'Oreal Professionnel Smartbond step 1	No objection
4893	12/16/2016	OLA_0000026884	OLA_0000026886	ANALYZE Report	H; FO; CP
4894	2/12/2019			Brandwatch Data Coverage White Paper: "In total we crawl over 95 million sites every day"	H; DIS; FO; MIL
4895	2/12/2019			The Instagram Universe dataset	H; DIS; FO; MIL
4896	2/12/2019			subfilter used for Set A on the Instagram platform	H; DIS; FO; MIL
4897	2/12/2019			Comparison Set A – Instagram dataset	H; DIS; FO; MIL
4898	2/12/2019			subfilter used for Set B on the Instagram platform	H; DIS; FO; MIL
4899	2/12/2019			Comparison Set B – Instagram dataset	H; DIS; FO; MIL
4900	2/12/2019			Twitter Universe dataset	H; DIS; FO; MIL
4901	2/12/2019			subfilter used for Set A on the Twitter platform	H; DIS; FO; MIL
4902	2/12/2019			Comparison Set A – Twitter dataset	H; DIS; FO; MIL

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4903	2/12/2019			subfilter used for Set B on the Twitter platform	H; DIS; FO; MIL
4904	2/12/2019			Comparison Set B – Twitter dataset	H; DIS; FO; MIL
4905	2/12/2019			Screengrabs from the Facebook Ad Platform	H; DIS; FO; MIL
4906	2/12/2019			Digital News Universe dataset	H; DIS; FO; MIL
4907	2/12/2019			subfilter used for Set A in the Digital News Universe	H; DIS; FO; MIL
4908	2/12/2019			Comparison Set A – Digital News dataset	H; DIS; FO; MIL
4909	2/12/2019			subfilter used for Set B in the Digital News Universe	H; DIS; FO; MIL
4910	2/12/2019			Comparison Set B – Digital News dataset	H; DIS; FO; MIL
4911	2/12/2019			Forums/Blogs Universe dataset	H; DIS; FO; MIL
4912	2/12/2019			subfilter used for Set A in the Forums/Blogs Universe	H; DIS; FO; MIL
4913	2/12/2019			Comparison Set A – Forums/Blogs dataset	H; DIS; FO; MIL
4914	2/12/2019			subfilter used for Set B in the Forums/Blogs Universe	H; DIS; FO; MIL
4915	2/12/2019			Comparison Set B – Forums/Blogs dataset	H; DIS; FO; MIL
4916	2/12/2019			Comparison Sets – Non-query/Boolean List	H; DIS; FO; MIL
4917	2/5/2015	LO_USA0075979	LO_USA0076005	WO 2015/017768 A1 with markups	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata
4918	Apr-15	LO_USA0076006	LO_USA0076056	Presentation entitled sSalon Brand Snapshot	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata; Incorrect Bate-stamp range and/or Description of document

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4919	May-15	LO_USA0076057	LO_USA0076058	Olivia - R&I assessment- May 2015 with handwritten notes	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata
4920	5/13/2015	LO_USA0076059	LO_USA0076079	Email from R. Dolden to D. Christal re: Project Olivia - Confidential with attachment	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; CP; COMP; Missing Metadata
4921	2015	LO_USA0076080	LO_USA0076080	Handwritten notes relating to Olivia	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata
4922	5/7/2015	LO_USA0076081	LO_USA0076092	Presentation entitled "Additives"	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata
4923	5/7/2015	LO_USA0076093	LO_USA0076098	Presentation entitled Olaplex	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata

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4924	5/7/2015	LO_USA0076099	LO_USA0076099	Email fro Delphine Allard to S. Allard forwarding email from F. Legrand to Delphine Allard dated May 7, 2015 re: Olivia - mecanismes avances	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Incorrect Bate-stamp range; Missing Metadata; foreign language
4925		LO_USA0076100	LO_USA0076100	Document regarding mechanism	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Incorrect Description of document; Missing Metadata
4926	5/5/2015	LO_USA0076101	LO_USA0076103	Email thread ending with email from F. Legrand to Delphine Allard Re: FW: Pre DD R&I assessment deck	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Incorrect Bate-stamp range; Missing Metadata
4927	2/9/2015	LO_USA0076104	LO_USA0076111	Search Report for Bis-Aminopropyl Diglycol Dimaleate in Hair Cosmetics	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata

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4928	4/28/2015	LO_USA0076112	LO_USA0076116	Presentation entitled Olivia R&I Synthesis - PreDD with markups	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; CP; Missing Metadata
4929	2015	LO_USA0076117	LO_USA0076117	Project Olivia - Pre d/d Request List	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata
4930	2015	LO_USA0076118	LO_USA0076118	Olivia - R&I assessment notes	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; CP; Incorrect Bate-stamp range; Missing Metadata
4931		LO_USA0076120	LO_USA0076134	Presentation entitled Olaplex Evaluation in Tecture metier with handwritten notes	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; CP; Missing Metadata
4932	6/11/2015	LO_USA0076135	LO_USA0076143	Presentation - Product Performance Evaluation - Olaplex Technology Instrumental Evaluation	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata

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4933	2015	LO_USA0076144	LO_USA0076144	R&I Eexecutive summary following Olivia meeting on May 19th with markups	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata
4934	2015	LO_USA0076145	LO_USA0076145	R&I Eexecutive summary following Olivia meeting on May 19th	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Missing Metadata
4935	2015	LO_USA0076146	LO_USA0076147	R&I assessment followiing Olivia meeting on May 19th with handwritten notes and markups	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; CP; Incorrect Bate-stamp range; Missing Metadata
4936	2015	LO_USA0076148	LO_USA0076148	Notes- About the silicon technology with markups	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; CP; Incorrect Bate-stamp range; Missing Metadata

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4937	5/22/2015	LO_USA0076149	LO_USA0076171	Email thread ending with email from R. Dolden to Vianney Pivet and H. Kumetz Re: Project Olivia - Meeting with Owner/Scientists - Strictly Confidential with attachments	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; Incorrect Bate-stamp range; Missing Metadata
4938	10/21/2014	LO_USA0076172	LO_USA0076175	Copy of International Search Report for International Application No. PCT/US2014/049388	LO Produced Late on May 8, 2019; DIS; H; FO; AU; MIL; LR; CP; Missing Metadata
4939	5/19/2015	LO_USA0076176	LO_USA0076225	Notebook with handwritten meeting notes	LO Produced Late on May 8, 2019); DIS; H; FO; AU; BE; MIL; LR; Missing Metadata
4940	2/12/2019			Expert Report of James Pooley	H; MIL
4941	2/12/2019			James Pooley CV	H; MIL
4942	2/12/2019			James Pooley Materials reviewed	H; MIL
4943	5/6/2014	OLA_00000116840	OLA_00000116840	Email from E. Connaghan to D. Christal, dated May 16, 2014 re Olaplex	
4944	2/12/2019			Expert Report of Thomas Shultz, Ph.D.	H; MIL; 403 (cumulative, see, e.g., TX 920)
4945				Shultz Curriculum Vitae	H; MIL
4946				Shultz Materials Reviewed	H; MIL
4947	2/12/2019			Rebuttal Expert Report of W. Todd Schoettelkotte Relating to Olaplex's Damages	H; MIL
4948	2/12/2019			Schedule 1	H; MIL
4949	2/12/2019			Schedule 2	H; MIL

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4950	2/12/2019			Schedule 3.1	H; MIL
4951	2/12/2019			Schedule 3.2	H; MIL
4952	2/12/2019			Schedule 3.3	H; MIL
4953	2/12/2019			Schedule 3.4	H; MIL
4954	2/12/2019			Schedule 3.5	H; MIL
4955	2/12/2019			Schedule 3.6	H; MIL
4956	2/12/2019			Schedule 3.7	H; MIL
4957	2/12/2019			Schedule 4.1	H; MIL
4958	2/12/2019			Schedule 4.2	H; MIL
4959	2/12/2019			Schedule 4.3	H; MIL
4960	2/12/2019			Schedule 4.4	H; MIL
4961	2/12/2019			Schedule 5.1	H; MIL
4962	2/12/2019			Schedule 5.2	H; MIL
4963	2/12/2019			Schedule 5.3	H; MIL
4964	2/12/2019			Schedule 5.4	H; MIL
4965	2/12/2019			Schedule 5.5	H; MIL
4966	2/12/2019			Schedule 5.6	H; MIL
4967	2/12/2019			Schedule 5.7	H; MIL
4968	2/12/2019			Schedule 5.8	H; MIL
4969	2/12/2019			Schedule 5.9	H; MIL
4970	2/12/2019			Schedule 5.10	H; MIL
4971	2/12/2019			Schedule 5.11	H; MIL
4972	2/12/2019			Schedule 5.12	H; MIL
4973	2/12/2019			Schedule 5.13	H; MIL
4974	2/12/2019			Schedule 5.14	H; MIL
4975	2/12/2019			Schedule 5.15	H; MIL
4976	2/12/2019			Schedule 5.16	H; MIL
4977	2/12/2019			Schedule 5.17	H; MIL
4978	2/12/2019			Schedule 5.18	H; MIL
4979	2/12/2019			Schedule 5.19	H; MIL
4980	2/12/2019			Schedule 5.20	H; MIL
4981	2/12/2019			Schedule 5.21	H; MIL
4982	2/12/2019			Schedule 6.1	H; MIL
4983	2/12/2019			Schedule 6.2	H; MIL

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4984	2/12/2019			Schedule 6.3	H; MIL
4985	2/12/2019			Schedule 6.4	H; MIL
4986	2/12/2019			Schedule 6.5	H; MIL
4987	2/12/2019			Schedule 6.6	H; MIL
4988	2/12/2019			Schedule 6.7	H; MIL
4989	2/12/2019			Schedule 6.8	H; MIL
4990	2/12/2019			Schedule 6.9	H; MIL
4991	2/12/2019			Schedule 6.10	H; MIL
4992	2/12/2019			Schedule 6.11	H; MIL
4993	2/12/2019			Schedule 6.12	H; MIL
4994	2/12/2019			Schedule 6.13	H; MIL
4995	2/12/2019			Schedule 6.14	H; MIL
4996	2/12/2019			Schedule 6.15	H; MIL
4997	2/12/2019			Schedule 6.16	H; MIL
4998	2/12/2019			Schedule 6.17	H; MIL
4999	2/12/2019			Schedule 6.18	H; MIL
5000	2/12/2019			Schedule 7.1	H; MIL
5001	2/12/2019			Schedule 7.2	H; MIL
5002	2/12/2019			Schedule 7.3	H; MIL
5003	2/12/2019			Schedule 7.4	H; MIL
5004	2/12/2019			Schedule 7.5	H; MIL
5005	2/12/2019			Schedule 7.6	H; MIL
5006	2/12/2019			Schedule 7.7	H; MIL
5007	2/12/2019			Schedule 7.8	H; MIL
5008	2/12/2019			Schedule 7.9	H; MIL
5009	2/12/2019			Schedule 7.10	H; MIL
5010	2/12/2019			Schedule 7.11	H; MIL
5011	2/12/2019			Schedule 7.12	H; MIL
5012	2/12/2019			Schedule 7.13	H; MIL
5013	2/12/2019			Schedule 7.14	H; MIL
5014	2/12/2019			Schedule 7.15	H; MIL
5015	2/12/2019			Schedule 7.16	H; MIL
5016	2/12/2019			Schedule 7.17	H; MIL
5017	2/12/2019			Schedule 7.18	H; MIL

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5018	2/12/2019			Schedule 7.19	H; MIL
5019	2/12/2019			Schedule 7.20	H; MIL
5020	2/12/2019			Schedule 7.21	H; MIL
5021	2/12/2019			Schedule 8.1	H; MIL
5022	2/12/2019			Schedule 8.2	H; MIL
5023	2/12/2019			Schedule 8.3	H; MIL
5024	2/12/2019			Schedule 8.4	H; MIL
5025	2/12/2019			Schedule 8.5	H; MIL
5026	2/12/2019			Schedule 8.6	H; MIL
5027	2/12/2019			Schedule 9.1	H; MIL
5028	2/12/2019			Schedule 9.2	H; MIL
5029	2/12/2019			Schedule 9.3	H; MIL
5030	2/12/2019			Schedule 9.4	H; MIL
5031	2/12/2019			Schedule 9.5	H; MIL
5032	2/12/2019			Schedule 9.6	H; MIL
5033	2/12/2019			Schedule 9.7	H; MIL
5034	2/12/2019			Schedule 9.8	H; MIL
5035	2/12/2019			Schedule 9.9	H; MIL
5036	2/12/2019			Schedule 9.10	H; MIL
5037	2/12/2019			Schedule 9.11	H; MIL
5038	2/12/2019			Schedule 9.12	H; MIL
5039	2/12/2019			Schedule 9.1	H; MIL
5040	2/12/2019			Schedule 9.2	H; MIL
5041	2/12/2019			Schedule 9.3	H; MIL
5042	2/12/2019			Schedule 9.4	H; MIL
5043	2/12/2019			Schedule 9.5	H; MIL
5044	2/12/2019			Schedule 9.6	H; MIL
5045	2/12/2019			Schedule 9.7	H; MIL
5046	2/12/2019			Schedule 9.8	H; MIL
5047	2/12/2019			Schedule 9.9	H; MIL
5048	2/12/2019			Schedule 9.10	H; MIL
5049	2/12/2019			Schedule 9.11	H; MIL
5050	2/12/2019			Schedule 9.12	H; MIL
5051	2/12/2019			Expert Report of Professor Peter N. Golder, Ph.D.	H

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
5052	2/12/2019			Ex. 1 - The Six Innovation Adoption Factors Olaplex and L'Oréal USA	H
5053	2/12/2019			Ex. 2 - Market Entrance Timeline of Hair-Protecting Additives Based on the 2016 TrendVision Report	H
5054	2/12/2019			Ex. 3 - Annotations to Professor Hanssens's Exhibit 4 Per-Month Average Historical U.S. Sales by Quarter October 2014 –September 2018	H
5055	2/12/2019			Appendix A - Curriculum Vitae	H
5056	2/12/2019			Appendix B - Testimony in the last four years	H
5057	2/12/2019			Appendix C - Materials Relied Upon	H
5058	2/12/2019			Appendix D - Melage, Carrie M., "Salon Hair Care: U.S. Market Analysis and Opportunities," Kline Research, May 2018 ("2018 Kline Report")	H; FO
5059	6/10/2015	LO_USA0074906	LO_USA0074910	Memo from M. Soliman to C. Goget, K. Hamilton, H. Lee, K. Norwood, J. Troch, D. Velkov, J. Ascione, S. De Launay, M. Kanji, F. LeGrand, C. Rondeau, and D. Trillat, dated June 10, 2015 re HIE15-007	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO
5060	4/19/2011	LO_USA0074935	LO_USA0074950	Memo from J. Cabourg, F. Chiba, M. De Boni, L. Feuillette, and H. Takahashi to V. Burckbuchler, A. Cavezza, C. Blaise, N. Cavusoglu, A. Dublanchet, D. Jullien, F. Leroy, J. Morancais, F. Pataut, G. Plos, I. Rodriguez, M. Vicic, J. Ascione, B. Didillon, G. Genain, L. Gilbert, I. Marey-Semper, and M. Mellul, dated April 19, 2011 re Investigation of the Performances of Bis-Maleimides on Hair Within the Context of 2 Axes: Straightening and Perm, and Formol Substitution	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
5061	1/18/2011	LO_USA0074981	LO_USA0075034	Hair Fiber Transformation Evaluation of Bis-Maleimides Reactivity on Amines	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS
5062		LO_USA0075977	LO_USA0075977	L'Oreal USA Units Sold	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO
5063	8/21/2015	OLA_0000073810	OLA_0000073810	Email from J. Schwartz to S. Orzel at K. Stewart, dated August 21, 2015 re Olaplex Knock Off	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; 403 (cumulative, see, e.g., TX 3935)
5064	11/5/2018	OLA_0000075807	OLA_0000075807	Spreadsheet from T. Walden re Olaplex sales	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
5065	2/12/2019			“pH Bonder: A Complete Synergistic System to Promote Bond Integrity,” Redken, available at https://www.redken.com/blog/at-the-salon/ph-bonder-complete-synergistic-system-promotes-bond-integrity	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS; REL
5066	6/15/1905			Golder, Peter N. and Gerard J. Tellis, “Pioneer Advantage: Marketing Logic or Marketing Legend?” Journal of Marketing Research, Vol. 30(2), 1993, pp. 158-170 (“Golder and Tellis (1993)”)	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS
5067	6/28/1905			Tellis, Gerard J. and Peter N. Golder, Will and Vision: How Latecomers Grow to Dominate Markets, Figueroa Press, 2006 (“Will and Vision”)	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS
5068	6/20/1905			Lieberman, Marvin B. and David B. Montgomery, “First-Mover (Dis)Advantages: Retrospective and Link with the Resource-Based View,” Strategic Management Journal, Vol. 19(12), 1998, pp. 1111-1125 (“Lieberman and Montgomery (1998)”)	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS; REL; 403 (cumulative, see, e.g., TX 1029)

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
5070	7/3/1905			Golder, Peter N., "First-Mover (Pioneer) Advantage," in Wiley International Encyclopedia of Marketing, Jagdish Sheth and Naresh Malhotra (Eds.), Wiley, 2011	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS
5071	7/3/1905			Golder, Peter N., "Later Mover (Nonpioneer) Advantage," in Wiley International Encyclopedia of Marketing, Jagdish Sheth and Naresh Malhotra (Eds.), Wiley, 2011	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS
5072	6/18/1905			Tellis, Gerald J. and Peter N. Golder, "First to Market, First to Fail? Real Causes of Enduring Market Leadership," Sloan Management Review, Vol. 37(2), 1996, pp. 65-75 ("Tellis and Golder (1996)")	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS; REL
5073	9/6/2016			"New Usage Directions. Same Amazing Result.," Olaplex , September 6, 2016, available at https://blog.olaplex.com/2016/09/06/olaplexs-new-usage-directions-same-amazing-result/	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
5074	2/12/2019			"Goldwell's BondPro+," Modern Salon , available at https://www.modernsalon.com/product/39856/goldwells-bondpro	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS; REL
5075	3/13/2017			"FibrePlex," Behind the Chair , available at https://behindthechair.com/product-announcements/schwarzkopf-professional-fibreplex/	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS; REL
5076	1/16/2018			"WellaPlex," Behind the Chair , available at https://behindthechair.com/product-announcements/wellaplex/	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS; REL
5077	2/12/2019			"WellaPlex Travel Kit," CosmoProf , available at https://www.cosmoprofbeauty.com/USA-819017.html	Late addition by L'Oreal on May 12, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS; REL

Trial Exh./ Deposition Exh. No.	Document Date	Begin Bates No.	End Bates No.	Description	Plaintiffs' Objection
5078	2/11/2019			Malonic Acid, National Center for Biotechnology Information, PubChem Open Chemistry Database, https://pubchem.ncbi.nlm.nih.gov/compound/malonic_acid .	Late addition by L'Oreal on May 14, 2019 after May 8, 2019 deadline for updated exhibit list; H; FO; DIS; REL

PLAINTIFFS' OBJECTION CODES TO DEFENDANTS' TRIAL EXHIBIT LIST

OBJECTIONS	DESCRIPTIONS	RULES
403	Probative value outweighed by unfair prejudice, confusion, undue delay, wasting time, or cumulative evidence	FRE 403
AU	Authenticity	FRE 901, 1001, 1002
BE	Best evidence rule	FRE 901, 1002, 1003
COMP	Compilation of documents/multiple documents	FRE 901, 1001, 1002
CP	Rule of completeness/incomplete document	FRE 106, 403, 1003
DIS	Not produced during discovery	
FO	Lack of foundation	FRE 602, 611(a)
H	Hearsay	FRE 801, 802
MIL	Subject of pending motion <i>in limine</i> or other motion	
LR	Violates the Delaware Local Rules	L.R. 16.3
Q	Quality of the document; illegible	
REL	Lack of relevance	FRE 401, 402
105	Admissible for one party for one purpose but not another party for another purpose	FRE 105
W	Privileged/Work Product	FRE 501

EXHIBIT 12

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 17-14 (JFB) (SRF)
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL – FILED UNDER
PRODUCTS, INC, L'ORÉAL USA S/D,	)	SEAL
INC., and REDKEN 5 TH AVENUE NYC,)	
L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' MOTION IN LIMINE NO. 1 TO PRECLUDE TESTIMONY OF
DEFENDANTS' EXPERTS OUTSIDE THE SCOPE OF THEIR EXPERT REPORTS**

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Defendants (“L’Oréal”) should be precluded from eliciting expert opinion testimony from their expert witnesses¹ beyond the scope of the opinions disclosed in the experts’ Rule 26 reports.

I. BACKGROUND

L’Oréal’s Amended Counter-Complaint (D.I. 650) alleges broadly that Plaintiffs (“Olaplex”) violated the Lanham Act through unspecified false advertising. D.I. 650, at 60-69. As written and served, its expert reports fail to offer admissible opinions in support of that claim.² As explained below, opinions not disclosed in a written report are “inadmissible for any purpose,” and should be precluded by an order *in limine*. *Hologic, Inc. v. Minervia Surgical, Inc.*, 2018 WL 3348998, at *1 (D. Del. Jul. 6, 2018) (quoting *Jonasson v. Lutheran Child & Family Servs.*, 115 F.3d 436, 440 (7th Cir. 1997)).

For example, Mr. Nolte was “engaged by L’Oréal USA to calculate monetary remedies” for the Lanham Act and False Marking Counter-Claims. Nolte Report at 1. As Olaplex explained, his damages Report lacks any analysis of the causal link between Olaplex’s challenged conduct and the asserted damages. D.I. 689, 765. Nonetheless, Mr. Nolte asserted at deposition that Olaplex’s conduct *caused* damages, declining to provide any specifics, or to locate that opinion in his Report.³ Similarly, Ms. Harper was retained to opine on whether “Olaplex’s marketing activities ... follow the

¹ Olaplex has moved to exclude L’Oréal’s experts pursuant to Daubert and Rule 702. *See* D.I. 684, 686, 688, 690, 692, 697, 700. In the event this Court does not grant such Motions, an order *in limine* should issue for the reasons set forth herein.

² On January 29, 2019 L’Oréal served reports of Harper (D.I. 720, Ex. 4, “Harper Report”) and Nolte (D.I. 720, Ex. 5, “Nolte Report”). Olaplex took depositions on March 6, 2019 (D.I. 722, Ex. 14, “Harper Tr.”) and March 7, 2019 (D.I. 722, Ex. 15, “Nolte Tr.”).

³ *See* Nolte Tr. at 101:11-14 (“Q. And you concluded that there is causation with respect to both the false patent [marking] and the false advertising? A. I have made that conclusion, yes.”); *id.* at 49:6-10 (“Q. What else in your report speaks to causation? A. In doing the calculations that I did, I made adjustments. And both those calculations were attempting to separate additional harm. And [] effectively it was because of causation-type reasons.”); *id.* at 50:8-9 (“So in that sense, [] I guess I’d refer you to almost the entire report.”).

rules and regulations of the Lanham Act.” Harper Report, ¶ 16. The Harper Report claims (without basis) that Olaplex “deceived *millions* of consumers,” nowhere explaining how the “millions” figure was derived or providing quantification. D.I. 687 at 13-14. Nonetheless, Ms. Harper (and her Counsel) claimed for the first time at deposition that the figure was “half a million” and/or “at least 33 million” without any analysis or support. *Id.* In addition to these examples, L’Oréal should not be allowed elicit testimony beyond the scope of the Rule 26 reports from any of its experts permitted to testify at trial. *See supra* note 1.

II. PRECLUSION IS THE APPROPRIATE REMEDY

This Court has explained that it “will, as it must, limit the expert testimony at trial to that disclosed in the expert reports.” *Stored Value Sols., Inc. v. Card Activation Techs., Inc.*, 2010 WL 3834457, at *2 n.1 (D. Del. Sep. 27, 2010); *accord Fairchild Semiconductor Corp. v. Power Integrations, Inc.*, 2015 WL 10457176, at *4 (D. Del. April 23, 2015) (“Absent approval of the Court, all experts for all parties are PRECLUDED from testifying beyond the scope of their reports . . .”). Such limitation is appropriate here—not only as to Ms. Harper and Mr. Nolte, but all of L’Oréal’s experts surviving to trial.

Federal Rule of Civil Procedure 26(a)(2)(B) requires an expert to disclose in his or her report “a *complete statement of all opinions* the witness will express *and the basis and reasons for them.*” *Id.* (emphasis added). As described above, several of L’Oréal’s experts attempted to offer additional opinions at deposition beyond what was set forth in their Rule 26 reports. If these experts are permitted to testify at trial, L’Oréal will likely attempt to elicit or use undisclosed opinions to remedy their deficient Rule 26 reports. Such testimony is not a “reasonable synthesis and/or elaboration of the opinions contained in [their] report[s]” and therefore must be excluded. *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 585 F. Supp. 2d 568, 581 (D. Del. 2008).

Notably, in its Opposition to Olaplex's *Daubert* challenge of Mr. Nolte's purported causation opinion, L'Oréal represented to the Court (contrary to Mr. Nolte's deposition testimony) that "Mr. Nolte was not asked, nor does he intend, to offer an opinion on causation." D.I. 755, at 1. Taking that representation as true, L'Oréal has no basis to oppose this motion precluding L'Oréal from eliciting, or Mr. Nolte from offering, a "causation" opinion at trial. Similarly, L'Oréal should not be allowed to attempt to rescue Ms. Harper's unstated figures by asserting they are "mere arithmetic." A central purpose of a Rule 26 report is to permit testing of the expert's opinions and their underlying methodology. *See Withrow v. Spears*, 967 F. Supp. 2d 982, 1000 (D. Del. 2013); Fed. R. Evid. 702. Ms. Harper's report does not attempt to quantify her "millions" figure and the challenged opinions are thus not "synthesis and/or elaboration" of that claim. *Power Integrations*, 585 F. Supp. 2d at 581.

Moreover, Olaplex would be unfairly prejudiced by allowing such new opinions at trial. Curing such prejudice would require supplemental discovery, which is impossible given the trial date. *See* D.I. 195. *See Forest Labs., Inc. v. Ivax Pharm., Inc.*, 237 F.R.D. 106, 113-14 (D. Del. 2006) (sustaining objections to expert's trial testimony as beyond the scope of his expert reports); *see also Hurley v. Atlantic City Police Dept.*, 174 F.3d 95, 113 (3d Cir. 1999) (factors for determining whether allowing testimony beyond the scope of expert reports was abuse of discretion include prejudice to opposing party, ability to cure the prejudice, disruption of trial, and bad faith or willfulness of non-compliance), *abrogated on other grounds by Potente v. Cty. of Hudson*, 900 A.2d 787, 794 (N.J. 2006) (applying state law).

III. CONCLUSION

Olaplex respectfully requests that the Court grant this Motion and enter an order precluding L'Oréal from eliciting expert opinion testimony outside the scope of its experts' reports.

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**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D,	)	FILED UNDER SEAL
INC. and REDKEN 5 TH AVENUE NYC,)	
LLC,)	
)	
Defendants.)	

**DEFENDANTS' OPPOSITION TO PLAINTIFFS' MOTION *IN LIMINE* NO. 1 TO
PRECLUDE TESTIMONY OF DEFENDANTS' EXPERTS OUTSIDE THE SCOPE OF
THEIR EXPERT REPORTS**

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I. SUMMARY OF ARGUMENT

Defendants agree, in principle, that experts should not be permitted to provide testimony at trial that goes beyond the scope of their reports. However, any such rule must be applied equally to all parties, not just to Defendants' experts. Fed. R. Civ. P. 26(a)(2)(B).

Notwithstanding Defendants' position, Defendants oppose Plaintiffs' Motion because it is premature and vague. Courts routinely deny motions *in limine* that seek to preclude expert testimony that goes "beyond the scope" of expert reports, holding that such determinations are more appropriately made at trial. *See, e.g., Almirall LLC v. Taro Pharm. Indus. LTD*, 2019 WL 316742, at *3 (D. Del. Jan. 24, 2019) (denying motion *in limine* to exclude expert testimony outside the scope of the expert's report, holding that while "only testimony and opinions properly disclosed in expert reports will be permitted[,] [plaintiff]'s challenges to purportedly undisclosed testimony may be based on an unduly narrow reading of the reports," and such objections would more appropriately be made at trial). Moreover, Plaintiffs' Motion is vague, as it purports to encompass all of Defendants' experts, but fails to pinpoint exactly which of their opinions will go beyond the scope of their reports. "Evidentiary rulings, especially ones that encompass broad classes of evidence, should generally be deferred until trial to allow for the resolution of questions of foundation, relevancy, and potential prejudice in proper context."

Leonard v. Stemtech Health Scis., Inc., 981 F. Supp. 2d 273, 276 (D. Del. 2013).

II. OLAPLEX'S OBJECTIONS AS TO THE SCOPE OF DEFENDANTS' EXPERTS' TESTIMONY ARE BETTER RESERVED FOR TRIAL.

While Defendants agree with the basic principle that parties' experts should not be permitted to testify about subjects beyond the scope of their reports, granting a motion *in limine* to this effect would be premature. Save for two experts, Plaintiffs have failed to articulate what matters would be "outside the scope" of Defendants' experts' reports. *Leonard*, 981 F. Supp. 2d

at 276 (“[T]he court may deny a motion in limine when it lacks the necessary specificity with respect to the evidence to be excluded.”) As such, an order proscribing such testimony for Defendants’ remaining experts would be vague, and susceptible to different interpretations by both parties. *See, e.g., Almirall*, 2019 WL 316742, at *3 (D. Del. Jan. 24, 2019) (denying motion *in limine* to exclude expert testimony outside the scope of the expert’s report, holding that while “only testimony and opinions properly disclosed in expert reports will be permitted[,] [plaintiff]’s challenges to purportedly undisclosed testimony may be based on an *unduly narrow reading of the reports*”) (emphasis added). *See also Bailey v. B.S. Quarries, Inc.*, 2016 WL 3411639, at *3, n.3 (M.D. Pa. June 16, 2016) (denying motion *in limine* to preclude expert testimony beyond the scope of the expert’s report, holding that an objection at trial would be a more appropriate means to decide the issue); *Lee v. Bawuah*, 2008 WL 8929051, at *1 (S.D.N.Y. July 23, 2008) (denying motion *in limine* to preclude doctors from testifying as to matters outside their report, holding that “defense counsel can object to any testimony at trial that goes beyond the scope of the doctors’ role as treating physician; the Court cannot rule in advance on any question by question issues, but will rule as necessary at trial”). Indeed, even Plaintiffs’ cited authority supports the proposition that *in limine* preclusion of testimony as to matters outside an expert’s report would be premature. *See, e.g., Stored Value Sols., Inc. v. Card Activation Techs., Inc.*, 2010 WL 3834457, at *2 (D. Del. Sept. 27, 2010) (“The Court will defer ruling on any objection to expert testimony as beyond the scope of the expert reports until after trial.”).

Plaintiffs’ arguments as to the two matters specifically identified as outside the scope of Defendants’ expert reports are unconvincing. First, Plaintiffs assert that David Nolte, Defendants’ damages expert, should be precluded from offering an opinion as to causation in connection with Defendants’ false advertising and false marking claims. However, Mr. Nolte

considered facts pertinent to causation in forming his damages opinions, as explained in his report, and should be permitted to discuss the facts he relied on at trial. An order prematurely circumscribing such testimony would be improper. Moreover, Plaintiffs' contention that Ms. Harper's opinion that Olaplex deceived millions of consumers should be excluded as "beyond the scope" of her report is belied by the Motion itself, which concedes that Ms. Harper included this opinion in her expert report, and she expounded upon it at her deposition.¹ (Mot. at 2.) As such, Olaplex has not articulated any grounds on which these or any other expert opinions should be excluded *in limine*, and its Motion should be denied.

¹ Olaplex's contention that the admission of these opinions would necessitate additional discovery is nonsensical, as these are not "new" opinions. Moreover, as Olaplex successfully blocked Defendants' efforts to obtain additional discovery as to causation and related matters, it should not now be allowed to block Defendants' introduction of such evidence. (*See* D.I. 673, Ex. B at 26:11-22, 30:20-31:11.) (Magistrate denying Defendants' motion to compel Plaintiffs to produce additional discovery relating to their false advertising based on Olaplex's representations that further discovery would be "cumulative.").

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/s/ Katharine L. Mowery
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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,

Plaintiffs,

V.

L'ORÉAL USA, INC., L'ORÉAL USA
PRODUCTS, INC., L'ORÉAL USA
S/D, INC., and REDKEN 5TH AVENUE
NYC, L.L.C.,

Defendants.

C. A. No. 1:17-cv-00014-JFB-SRF

**CONFIDENTIAL –
FILED UNDER SEAL**

PLAINTIFFS' REPLY IN FURTHER SUPPORT OF THEIR MOTION *IN LIMINE* NO. 1 TO PRECLUDE TESTIMONY OF DEFENDANTS' EXPERTS OUTSIDE THE SCOPE OF THEIR EXPERT REPORTS

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May 13, 2019

Plaintiffs’ (“Olaplex”) and Defendants (“L’Oréal”) are in accord: “experts should not be permitted to provide testimony at trial that goes beyond the scope of their reports.” Opp. at 1. Notwithstanding this agreement, L’Oréal argues that Olaplex’s Motion is “premature and vague” because Olaplex identified “only” two instances in which L’Oréal’s experts already attempt to offer opinions beyond their reports. *Id.* At a minimum, the Court should exclude those improper opinions, and Olaplex maintains that an *in limine* order covering all experts at trial is warranted. The specificity of Olaplex’s Motion alone distinguishes this case from L’Oréal’s cited authorities, which do not address specific examples of testimony outside the scope of expert reports. *E.g.*, *Bailey v. B.S. Quarries, Inc.*, 2016 WL 3411639 (M.D. Pa. June 16, 2016); *Lee v. Bawuah*, 2008 WL 8929051 (S.D.N.Y. July 23, 2008). L’Oréal’s other authorities are inapposite bench trials, not jury trials mandating relief as here. *E.g.*, *Almirall LLC v. Taro Pharma. Indus. LTD*, 2019 WL 316742, at *2 (D. Del. Jan. 24, 2019). The concerns about “new” expert opinions are significant because this is a jury trial, and juries often heed expert testimony closely. For that reason, numerous decisions exist precluding, *in limine*, experts from offering opinions beyond their Rule 26 reports (*see* Mot. at 2); the Court should exercise its discretion to do so here for the reasons outlined in the Motion. As to David Nolte, L’Oréal’s defense of his novel causation opinions fails. Opp. at 2-3. At deposition Mr. Nolte for the first time purported to opine on causation (Mot. at 1 & n.3). L’Oréal claims that he “explained in his report” that he “considered facts pertinent to causation,” Opp. at 2-3, but can offer no citation proving this because there is none. *See* D.I. 720, Ex. 5. As to Rhonda Harper, L’Oréal attempts to characterize the “at least 33 million” figure offered by *counsel* at deposition as merely “expound[ing] upon” her written “millions of consumers” opinion. Opp. at 3. But *attorney* testimony at deposition to buttress a conclusory opinion is still an opinion outside the report, and improper. Mot. at 1-2; D.I. 687, at 13-14 & n.3.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 17-14 (JFB) (SRF)
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D,	)	FILED UNDER SEAL
INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' MOTION IN LIMINE NO. 2 TO PRECLUDE REFERENCE TO OR USE
OF POST GRANT REVIEW PROCEEDINGS RELATING TO THE PATENTS-IN-SUIT**

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Defendants (“L’Oréal”) should be precluded from referencing or using at trial any Post Grant Review (“PGR”) proceedings or decisions regarding the Patents-in-Suit, including reference or use of any decision that issues between now and trial.

I. BACKGROUND

Plaintiffs (“Olaplex”) claim that L’Oréal infringes U.S. Patent No. 9,498,419 (“’419 Patent”) and No. 9,668,954 (“’954 Patent”). D.I. 636, at 25-37. Post-Grant Review of the ’419 Patent was instituted on July 19, 2017. *See L’Oreal USA, Inc. v. Liqwd, Inc.*, No. PGR2017–00012, 2017 WL 3085428 (PTAB July 19, 2017). The Patent Office found claims 1-8 and 10 of the ’419 Patent to be unpatentable. D.I. 373. Olaplex has timely appealed that decision to the United States Court of Appeals for the Federal Circuit, where the appeal remains active and pending. *See Liqwd, Inc. v. L’Oréal USA, Inc.*, Case No. 2018-2152. Post-Grant Review of the ’954 Patent was instituted on August 30, 2018. *See L’Oreal USA, Inc. v. Liqwd, Inc.*, No. PGR2018-00025, 2018 WL 3934314 (PTAB Aug 10, 2018). The Patent Office has not yet issued a decision in this PGR proceeding.¹

As a defense to Olaplex’s infringement claims, L’Oréal contends that the Patents-in-Suit are invalid. *See, e.g.*, D.I. 650 at 26 (Fourth Defense), *id.* ¶¶ 255-59, 265-69. L’Oréal should be precluded from arguing that the Patent Office’s decisions—to date and any additional decisions prior to the start of trial—are evidence of invalidity in support of this defense. Because, as described below, such evidence is “inadmissible on all potential grounds,” *Leonard v. Stemtech Health Scis., Inc.*, 981 F. Supp. 2d 273, 276 (D. Del. 2013), and because the development and presentation of the evidence at trial will not bear upon the admissibility question, *cf. C R Bard*

¹ The Patent Office ***declined*** to institute Post-Grant review in response to several petitions concerning the Patents-in-Suit. This Motion seeks an order precluding ***any*** reference or use of PGR proceedings and, as such, applies equally to these declinations.

Inc. v. AngioDynamics Inc., 2018 WL 3468215, at *3 (D. Del. July 18, 2018), an order *in limine* is appropriate.

II. ARGUMENT

The Patent Office's decision on the '419 Patent is not binding on the district court and is still on appeal to the Federal Circuit, and its decision to institute '954 Patent PGR proceedings is preliminary.² Therefore, any reference to this decision or institution, or to the proceeding generally, would be highly prejudicial to Olaplex at trial. Fed. R. Evid. 403; *see Hologic, Inc. v. Minerva Surgical, Inc.*, 2018 WL 3348998, at *4 (D. Del. July 9, 2018) (issuing order *in limine* "because the patent office proceeding and decision are not binding and are on appeal, the prejudicial and confusing effect of the evidence almost certainly outweighs any probative value."). The nature of Patent Office PGR decisions, and their interaction with Article III appeals, is a complex question beyond the understanding of a reasonable jury. A jury will not likely understand how to weigh an administrative decision subject to appeal that may be reversed (as to the '419 Patent), nor a decision to institute PGR proceedings (as to the '954 Patent), and is likely to give the Patent Office's decisions far more weight than the law permits. Indeed, even on instruction a jury is not likely to comprehend the differing burdens of proof employed by the Patent Office (as compared to the Article III Courts), or the meaning of institution of PGR proceedings. Should the Federal Circuit reverse (in whole or in part) the Patent Office's decision on the '419 Patent, or should the Patent Office determine that the '954 Patent was duly issued, the jury will have already been tainted by presentation of this information, necessitating retrial.

Where, as here, the Patent Office's decision is not binding and the Federal Circuit has not ruled on it, courts *routinely exclude any reference to or reliance on* the Patent Office's decision

² The Patent Office may issue a decision on the '954 Patent between now and trial. As such, the Court's order should extend to any decisions that may issue from the Patent Office.

under Rule 403. *See, e.g., Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331, 1343 (Fed. Cir. 2009) (applying Third Circuit law, finding that the results of the Patent Office proceedings were “not binding” on the district court and the “prejudicial nature of evidence” “outweighed whatever marginal probative or corrective value”); *Hologic, Inc.*, 2018 WL 3348998, at *4 (excluding reference to the substance and decision of PGR proceedings “with respect to the merits”); *Personalized User Model, L.L.P. v. Google Inc.*, 2014 WL 807736, at *3 (D. Del. Feb. 27, 2014) (excluding any reference to Patent Office proceedings because “given the non-finality of the reexamination proceedings . . . the probative value of the reexamination evidence is substantially outweighed by the risk of unfair prejudice”); *Belden Techs. Inc. v. Superior Essex Commc’ns LP*, 802 F. Supp. 2d 555, 569 (D. Del. 2011) (“final” decision by Patent Office “not binding on the court” and “far more prejudicial than probative”).

In addition to yielding unfair prejudice, reference to the PGR proceedings would present a substantial danger of confusing the issues and misleading the jury. *See* Fed. R. Evid. 403. PGR proceedings apply unique burdens of proof and different legal standards from those in District Court. It would be difficult, if not impossible, to instruct a jury on these critical nuances. *See Personalized User Model*, 2014 WL 807736, at *3 (excluding any reference to the Patent Office proceedings because of the “different standards applicable” to patent office proceedings and litigation “risk confusing the jury”); *Callaway*, 576 F.3d at 1343 (risk of jury confusion is “high” if evidence from Patent Office proceedings introduced); *Belden Techs.*, 802 F. Supp. 2d at 569 (admitting the final results at the Patent Office “would have only served to confuse the jury”).

III. CONCLUSION

Olaplex respectfully requests that the Court grant this motion and enter an order precluding L’Oréal from referencing or using at trial any PGR proceedings or decisions.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
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v.)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA)	HIGHLY CONFIDENTIAL
PRODUCTS, INC., L'ORÉAL USA S/D, INC.,)	FILED UNDER SEAL
and REDKEN 5 TH AVENUE NYC, LLC,)	
)	
Defendants.)	

**DEFENDANTS' RESPONSE TO PLAINTIFFS' MOTION *IN LIMINE* NO. 2 TO
PRECLUDE REFERENCE TO OR USE OF POST GRANT REVIEW PROCEEDINGS
RELATING TO THE PATENTS-IN-SUIT**

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Dated: May 8, 2019

Defendant L'Oréal USA, Inc. initiated post-grant reviews ("PGRs") against the two asserted patents in this case, U.S. Patent No. 9,498,419 ("the '419 patent") and U.S. Patent No. 9,668,954 ("the '954 patent"). The '419 patent PGR was instituted on July 19, 2017, *L'Oréal USA, Inc. v. Liqwd, Inc.*, No. PGR2017-00012, 2017 WL 3085428 (P.T.A.B. July 19, 2017), and the Patent Trial and Appeal Board ("PTAB") issued a final written decision on June 27, 2018, finding all of the claims-at-issue (claims 1-8 and 10) to be unpatentable. (D.I. 373.) The '954 patent PGR was instituted on August 10, 2018 (as to all claims), but a final decision has not yet issued. *L'Oréal USA, Inc. v. Liqwd, Inc.*, No. PGR2018-00025, 2018 WL 3934314 (P.T.A.B. Aug. 10, 2018). Plaintiffs ask that the Court "enter an order precluding L'Oréal from referencing or using at trial any PGR proceedings or decisions" under Rule 403 of the Federal Rules of Evidence. (Mot. at 3.) Plaintiffs' motion should be denied for several reasons.

First, Plaintiffs ask for the motion *in limine* to apply only to Defendants. (See Mot. at 3.) By making such a one-sided request, Plaintiffs concede the relevance of the information at issue. There is no legitimate basis to apply a PGR-related restriction on Defendants and not Plaintiffs. If the Court were to agree with Plaintiffs' arguments as to prejudice and confusion, they would apply in both directions.

Second, the PGR proceedings are part of the intrinsic records of the asserted patents and thus are relevant to both Plaintiffs' and Defendants' claims and defenses concerning these patents (e.g., as to invalidity, non-infringement, and estoppel). *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349 (Fed. Cir. 2004).

Third, Plaintiffs themselves have highlighted the relevance of this intrinsic evidence by heavily relying on the PGR record throughout this case to support their positions concerning the asserted patents. For instance, Plaintiff's technical expert referenced the PGR record in well

over 100 paragraphs of his expert report to support his opinions on validity. (*See, e.g.*, D.I. 716, Ex. B at ¶¶ 79-82, 86-96, 106, 108, 109, 115, 180, 198, 219, 220, 222, 228, 231-235, 238, 256-258, 279, 283, 293, 310, 312, 314-316, 347-351, 353, 354, 356, 358, 360, 361, 368-371, 373, 374, 376, 378, 380, 381, 383, 385, 392, 400, 458-460, 464-466, 468-471, 475-479, 481-483, 485-487, 489, 490, 492, 497, 498, 500, 502, 509, 519, 532, 542, 550, 562, 564, 567, 570-576, 579, 581, 582, 585-588, 591, 613, 622, 635, 645, 669, 681, 695, 708, 719, 822, 830, 850, 853, 863-865, 978.) In fact, many of these paragraphs cite exclusively to the PGR record, and go to key issues such as whether the prior art discloses certain claim limitations. It would be highly prejudicial to preclude Defendants from referencing or using the PGR record—effectively shielding Plaintiffs’ expert from questions about the PGR record—when Plaintiffs’ expert has relied on the PGR record to support his opinions.

Fourth, testimonial and documentary evidence has been developed in the PGR proceedings that is relevant here. For instance, Plaintiff Liqwd, Inc. submitted to the PTAB declarations from one co-inventor Eric Pressly (Ex. A), Plaintiffs’ CEO, Dean Christal (Ex. B; Ex. C), and a technical expert, Edward Borish, (Ex. D; Ex. E). Each of these individuals was also deposed in relation to the PGR proceedings, resulting in deposition transcripts being submitted into evidence in the PGR proceedings.¹ Pressly and Christal are fact witnesses in this case (*see* D.I. 762) and Borish is Plaintiffs’ technical expert (*see* D.I. 714 Ex. B). This Court has previously recognized that it is entirely permissible for “evidence that has been developed in [a post-grant patent office proceeding, such as a PGR] – including testimonial as well as documentary evidence – [to] be used at trial, provided that it is done without referencing the

¹ Plaintiffs have refused to produce deposition transcripts associated with the ’954 patent PGR, which is a subject of objections filed by Defendants. (*See* D.I. 729.)

[proceeding].” *Siemens Mobility Inc. v. Westinghouse Air Brake Techs. Corp.*, No. 16-284-LPS, 2019 WL 77046, at *1 (D. Del. Jan. 2, 2019). Thus, at a minimum, Defendants should be allowed to make the jury aware of testimony and evidence offered to the PTAB to assess witness credibility and truthfulness, particularly where the testimony is inconsistent with what is offered to the jury. Indeed, while Plaintiffs ask the Court to preclude reference to anything from the PGR *proceedings*, its arguments are exclusively directed to issues associated with putting PGR *decisions* before the jury. (Mot. at 2-3.) While inconsistent testimony may be harmful to Plaintiffs’ case, it is not the sort of prejudice that is considered in the context of FRE Rule 403. Consistent with the finding in *Siemens Mobility*, testimonial and documentary evidence developed in the PGR proceedings should be admissible.

Fifth, Plaintiffs assert that Defendants “[have] willfully infringed, and [are] willfully infringing the Asserted Patents” and further ask that “this case [be] found to be an exceptional case.” (D.I. 636 at 42.) Therefore, “the fact of initiation of the [PGR] proceeding[s] may be relevant to issues of subjective intent and willfulness.” *Hologic, Inc. v. Minerva Surgical, Inc.*, No. 1:15-cv-1031, 2018 WL 3348998, at *4 (D. Del. July 9, 2018). While Plaintiffs argue that the jury will not know how to assess the PGR decisions against the patents-in-suit (Mot. at 2-3), no such prejudice could apply to references to the filing of the PGRs. And even if there was some *de minimis* prejudice, it is not undue prejudice since it is highly relevant and the likelihood of any jury confusion is low. Therefore, Defendants should be allowed to present the jury with sufficient evidence from the PGR proceedings to defend against Plaintiffs’ claims that relate to Defendants’ intent.

For the foregoing reasons, Defendants respectfully submit that Plaintiffs’ motion should be denied.

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Exhibit A

PGR 2017-00012

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

L'ORÉAL USA, INC.,
Petitioner,

v.

LIQWD, INC.,
Patent Owner.

Case PGR 2017-00012
Patent No. 9,498,419

DECLARATION OF ERIC D. PRESSLY, Ph.D.

Mail Stop PATENT BOARD
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Alexandria, VA 22313-1450

I, Eric D. Pressly, Ph.D., declare as follows:

1. I am one of the co-inventors of U.S. Patent No. 9,498,419 (“the ’419 patent”) which is owned by Liqwd, Inc. (“Patent Owner”). I understand that Olaplex LLC (“Olaplex”) is currently an exclusive licensee of the ’419 patent, and I am a co-owner of Olaplex.
2. I submit this declaration in support of Patent Owner’s Response to the Post Grant Review Petitioner filed by Petitioner L’Oréal USA, Inc. (“Petitioner”) in proceeding PGR2017-00012.
3. Unless otherwise stated, I have personal knowledge of the facts stated in this affidavit, or believe them to be true based upon information provided to me by others and after a reasonable investigation. I could and would competently testify that the below facts are true and correct to the best of my knowledge if called upon to do so.
4. I am a materials scientist by education and training. I graduated with honors from the Materials Science and Engineering department at the University of Illinois, and received my doctorate degree from the University of California Santa Barbara in Materials Science.
5. I am self-employed and work with both Patent Owner and Olaplex. Among the work that I have done for Patent Owner and Olaplex is inventing and developing hair care products for them, answering technical questions, and

attending trade shows. I began working with Patent Owner in late 2012 and with Olaplex after it was founded in 2014.

6. Dr. Craig Hawker (co-inventor of the '419 patent) and I partnered with Dean Christal in 2012 to invent and develop products to protect hair from the well-known damage that occurs during chemical services. Dr. Hawker and I sought out different chemistries to protect chemically treated hair. We worked with Mr. Christal in my home garage over months evaluating candidate compositions, which we applied to hair swatches while subjecting them to chemicals and subsequent washings.

7. Dr. Hawker and I ultimately discovered the unexpected performance of compositions with certain active agents that provide protection to hair during chemical bleaching. Based on these discoveries, Olaplex licensed patent applications and patents from Patent Owner and commercialized a three-step "bond builder" hair care system: Bond Multiplier (No. 1), Bond Perfector (No. 2), and Hair Perfector (No. 3). The three-step Olaplex system uses bis-aminopropyl diglycol dimaleate as the active ingredient.

8. I am a co-inventor on a series of U.S. patents and patent applications describing the use of a different chemical (maleic acid) as an additive in a method for bleaching hair.

9. On May 15, 2015, a patent application (Ser. No. 14/713,885; Exhibit 2024) was filed naming Dr. Hawker and me as co-inventors, which described use of maleic acid as an additive for bleaching hair.

10. In March of 2015, Petitioner contacted me and unsuccessfully tried to recruit and hire me to work with Petitioner, but I did not respond to that advance.

11. In May of 2015, Dean Christal approached me and asked me to meet with representatives for Petitioner in Santa Monica, California. He instructed me that my role was to answer technical questions regarding the proprietary technology, which Dr. Hawker and I developed for Patent Owner to protect hair during bleaching treatments.

12. On May 19, 2015, I travelled from Santa Barbara to Santa Monica for a lunch meeting with Petitioner's representatives at The Penthouse Restaurant in the Huntley Hotel. I joined the meeting in progress. Dean Christal and I attended on behalf of Patent Owner. From Petitioner, I recall meeting Mr. Roger Dolden, Mr. Hugo Kunetz, and Ms. Delphine Allard.

13. Petitioner's representatives had a binder with them during the meeting, which I believe contained complete copies of each of Patent Owner's then-published Patent applications. Ms. Allard used a note pad to take notes of the discussions, and my answers to her questions about how the technology works.

14. Ms. Allard appeared to be reading a document during the meeting. I believe that document was a copy of our maleic acid patent application (Exhibit 2024) which had been filed just days earlier. Later, after the meeting with Petitioner's representatives, Mr. Christal confirmed that he had provided Ms. Allard with a copy of our maleic acid patent application under a non-disclosure agreement.

15. Mr. Christal described to Petitioner's representatives that Patent Owner's patent applications describe cheaper alternatives to Olaplex's active, which I understood to a reference to maleic acid.

16. Ms. Allard asked how we determined which compounds (including maleic acid) were effective and which were not. We discussed formulation, stability, and solubility of maleate ions that applied equally to the previously disclosed '419 patent and the Olaplex active ingredient.

17. At the conclusion of the meeting, Petitioner's representatives took copies of Patent Owner's patent applications with them, including the application describing the use of maleic acid that Mr. Christal had provided during the meeting.

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Patent No. 9,498,419

I declare, under the penalty of perjury, that the foregoing is true and correct.

Executed October 19, 2017, at Santa Barbara, California.


Eric D. Pressly, Ph.D.

Exhibit B

PGR 2017-00012

Filed on behalf of Liqwd, Inc.
By: Matthew K. Blackburn
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CONTAINS CONFIDENTIAL INFORMATION

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

L'ORÉAL USA, INC.,
Petitioner,

v.

LIQWD, INC.,
Patent Owner.

Case PGR 2017-00012
Patent No. 9,498,419

DECLARATION OF DEAN CHRISTAL

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Patent Trial & Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

PGR 2017-00012
Patent No. 9,498,419

I, Dean Christal, declare as follows:

1. I founded and own Liqwd, Inc. ("Patent Owner"), which in turn owns U.S. Patent No. 9,498,419 ("the '419 patent"). I also co-own the exclusive licensee of the '419 patent, Olaplex LLC ("Olaplex").

2. I submit this declaration in support of Patent Owner's Response to the Post Grant Review Petition filed by Petitioner L'Oréal USA, Inc. ("Petitioner") in proceeding PGR2017-00012.

3. Unless otherwise stated, I have personal knowledge of the facts stated in this declaration, or believe them to be true based upon information provided to me by others and after a reasonable investigation. I could and would competently testify that the below facts are true and correct to the best of my knowledge if called upon to do so.

4. I founded Patent Owner in 2008. From my efforts to market Patent Owner's products, as well as from my personal experience in the hair care industry, I have had many conversations with professional stylists. By 2012, I came to understand the professional beauty industry had accepted that damage occurred to hair during bleach or chemical processes. Each year, consumers purchased many different products to hide or mask damage caused by chemical treatment. However, no product was available on the market to prevent damage to hair during chemical treatments such as bleaching.

5. In 2012, I met Drs. Craig J. Hawker and Eric D. Pressly. During my initial conversation with Dr. Hawker, we talked about the need for a product to prevent hair damage during chemical treatments. Thereafter, I worked with Drs. Craig Hawker and Eric Pressly to develop these products. This work led to discoveries by Drs. Hawker and Pressly that certain chemicals had a protective effect when used during hair bleaching.

6. In May 2014, I caused Olaplex to be registered as a business in the State of California. I have functioned as the CEO/Manager of Olaplex since it was founded. I formed Olaplex in order to bring to market one of the chemicals discovered by Drs. Hawker and Pressly, which had a protective effect when used during hair bleaching.

7. Olaplex commercialized as a three-step Olaplex “bond builder” hair care system: Bond Multiplier (No. 1), Bond Perfector (No. 2), and Hair Perfector (No. 3) beginning on June 23, 2014 via the Olaplex website (www.olaplex.com). By November 2014, Olaplex had entered into a distribution contract with one of Petitioner’s subsidiaries (Salon Centric) to distribute Olaplex’s bond builder system.

8. By at least 2015, after seeing Olaplex’s success with stylists and its incredible sales at Salon Centric, Petitioner approached me about acquiring Olaplex.

9. Over the course of the next nine months, I met with Petitioner's employees and representatives multiple times. Among Petitioner's employees and representatives that I met with were Paul Sharnsky; Bertrand Fontaine; Roger Dolden; Hugo Kunetz; Delphine Allard; Nicolas Hieronimus; and An Verhulst-Santos.

10. In April/May 2015, Mr. Dolden, an Executive Vice President of Petitioner, approached me and requested an in-person meeting to discuss the possibility of Petitioner acquiring Olaplex.

11. Thereafter, Mr. Dolden asked me to execute a Non-Disclosure Agreement ("NDA"), a copy of which he provided via e-mail on May 13, 2015. Ex. 2012 is a true and correct copy of the e-mail that I received from Mr. Dolden on or about May 13, 2015 with the attachments. The NDA provided Petitioner with a 60-day period of exclusivity to negotiate the purchase of Olaplex. During a telephone call at that same time, I was told by Mr. Dolden that Petitioner's purpose behind the NDA was to permit the sharing of information with Petitioner as part of its due diligence process in connection with the acquisition.

12. On May 15, 2015, I executed the NDA.

13. Also in May of 2015, I approached Dr. Pressly and asked him to attend the in-person meeting with representatives for Petitioner in Santa Monica, California. I told Dr. Pressly that he was responsible for answering technical

questions from Petitioner regarding the proprietary technology to protect hair during bleaching treatments.

14. On May 19, 2015, I drove by myself from Santa Barbara to Santa Monica for the in-person meeting with Petitioner's representatives at The Penthouse Restaurant in the Huntley Hotel. In attendance for Petitioner were Mr. Roger Dolden (an Executive Vice President), Hugo Kunetz (the President for the North Americas of Petitioner's parent, L'Oréal S.A.), and Ms. Delphine Allard (who I understood at the time was a chemist for Petitioner).

15. During the meeting, we discussed the three-step Olaplex "bond builder" hair care system as well as other proprietary technology relating to other chemicals (maleic acid) which had a protective effect when used during hair bleaching.

16. Under the NDA, I provided Petitioner with a copy of Patent Owner's then-unpublished maleic acid patent application describing Patent Owner's patented technology. Exhibit 2024 is a true and correct copy of the patent application that I handed directly to Ms. Allard during the May 19, 2015 meeting. I recall her reading the application during the meeting. At that time, this patent application was secret and was not publicly available.

17. At some point later, Dr. Pressly arrived and joined the meeting. The general substance of Petitioner's questions during the meeting related to the

technology invented by Drs. Hawker and Pressly, the development and testing of that technology, and the unpublished patent application, which I had earlier given to Ms. Allard. I told Petitioner's representatives that cheaper alternatives to Olaplex's active were contained in the patent application that I had earlier given to Ms. Allard.

18. Petitioner's representatives spoke with Dr. Pressly and asked him questions. Ms. Allard asked how we determined which compounds, including maleic acid, were effective and which were not.

19. At the conclusion of the meeting, Petitioner's representatives took copies of Patent Owner's patent applications with them, including the application describing the use of maleic acid that I had provided earlier in the meeting.

20. In May 2015, Petitioner did not have any commercially available products that I was aware of which used maleic acid as an additive in a method for bleaching hair. During our discussions about Petitioner acquiring Olaplex, Petitioner never told me that they had developed a maleic acid-based additive for using during bleaching. During these meetings, Petitioner had obtained information that I believe it needed to develop new products copying Patent Owner's proprietary maleic acid technology.

21. Later in 2015, by September, Mr. Dolden returned to Los Angeles and met with me. During that meeting, Mr. Dolden informed me that Petitioner was no

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longer interested in purchasing our technology, including the maleic acid bleaching additive technology described and claimed in the '419 patent.

22. In August of 2016, L'Oréal launched two products in the United States: Bond Ultim8 Step 1 Amplifier under the Matrix line and pH- Bonder #1 Bond Protecting Additive under the Redken brand. In November of 2016, L'Oréal also launched a third product Smartbond Step 1 Additive sold under its L'Oréal Professionnel line in the United States. In this declaration, I refer to these products collectively as the "Copy Products."

23. The Copy Products were Petitioner's first commercially available products that used maleic acid as an additive in a method for bleaching hair.

24. I believed at that time, and continue to believe, that the Copy Products use the '419 patent's technology and that Petitioner had improperly used information that it obtained from me to develop the Copy Products.

I declare, under the penalty of perjury, that the foregoing is true and correct.

Executed October 18, 2017, at Santa Barbara, California.


Dean Christal

Exhibit C

PGR 2018-00025

Filed on behalf of Liqwd, Inc.
By: Matthew K. Blackburn
DIAMOND MCCARTHY LLP
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San Francisco, CA 94111
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Fax: 415.263.9200

CONTAINS PROTECTIVE ORDER MATERIAL

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

L'ORÉAL USA, INC.,
Petitioner,

v.

LIQWD, INC.,
Patent Owner.

Case PGR 2018-00025
Patent No. 9,668,954

DECLARATION OF DEAN CHRISTAL

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Patent Trial & Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

-1-

Liqwd, Inc. Ex. 2046
L'Oreal USA, Inc. v. Liqwd, Inc.
PGR2018-00025

I, Dean Christal, declare as follows:

1. I founded and own Liqwd, Inc. (“Patent Owner”), which in turn owns U.S. Patent No. 9,668,954 (“the ’954 patent”). I also co-own the exclusive licensee of the ’954 patent, Olaplex LLC (“Olaplex”).

2. I submit this declaration in support of Patent Owner’s Response to the Post Grant Review Petition filed by Petitioner L’Oréal USA, Inc. (“Petitioner”) in proceeding PGR2018 – 00025.

3. Unless otherwise stated, I have personal knowledge of the facts stated in this declaration, or believe them to be true based upon information provided to me by others and after a reasonable investigation. I could and would competently testify that the below facts are true and correct to the best of my knowledge if called upon to do so.

4. I founded Patent Owner in 2008. From my efforts to market Patent Owner’s products, as well as from my personal experience in the hair care industry, I have had many conversations with professional stylists. By 2012, I had come to understand the professional beauty industry accepted that damage occurred to hair during bleach or chemical treatment. Each year, consumers purchased many different products to hide or mask damage caused by chemical treatment. However, no product was available on the market to prevent damage to hair during chemical treatment, such as during bleaching.

5. In 2012, I met Drs. Craig J. Hawker and Eric D. Pressly. During my initial conversation with Dr. Hawker, we talked about the need for a product to prevent hair damage during chemical treatments. Afterwards, I worked with Drs. Hawker and Pressly to develop these products. This work led to discoveries by Drs. Hawker and Pressly that certain chemicals had a protective effect when used during hair bleaching.

6. I have functioned as the CEO/Manager of Olaplex since it was founded in May 2014. I formed Olaplex in order to bring to market the three-step Olaplex “bond builder” hair care system: Bond Multiplier (No. 1), Bond Perfector (No. 2), and Hair Perfector (No. 3).

7. One of Petitioner’s subsidiaries (Salon Centric) entered into a contract to distribute Olaplex’s bond builder system by November 2014. After Olaplex’s success with stylists and its incredible sales at Salon Centric, Petitioner approached me by at least 2015 about acquiring Olaplex.

8. Over the course of about nine months, I repeatedly met with Petitioner’s employees and representatives, including: Paul Sharnsky; Bertrand Fontaine; Roger Dolden; Hugo Kunetz; Delphine Allard; Nicolas Hieronimus; and An Verhulst-Santos.

9. Mr. Dolden, who then was an Executive Vice President with Petitioner, approached me in April or May 2015 and requested an in-person meeting to discuss the possibility of Petitioner acquiring Olaplex.

10. Mr. Dolden would later request that I execute a Non-Disclosure Agreement (“NDA”), which provided Petitioner with a 60-day period of exclusivity to negotiate the purchase of Olaplex. During a telephone call in mid-May 2015, Mr. Dolden told me that Petitioner’s purpose behind the NDA was to permit information sharing with Petitioner as part of a due diligence process in connection with Petitioner’s acquisition of Olaplex.

11. I executed the NDA on May 15, 2015.

12. Also in May of 2015, I approached Dr. Pressly and asked him to attend the in-person meeting in Santa Monica, California with Petitioner’s representatives. I told Dr. Pressly, one of the inventors of the ’954 patent, that he was responsible for answering technical questions from Petitioner regarding the proprietary technology to protect hair during bleaching treatments that he and Dr. Hawker had invented.

13. On May 19, 2015, I drove by myself from Santa Barbara to Santa Monica for the in-person meeting with Petitioner’s representatives at The Penthouse Restaurant in the Huntley Hotel. In attendance for Petitioner were Mr. Roger Dolden (then an Executive Vice President), Hugo Kunetz (then the

President for the North Americas of Petitioner's parent, L'Oréal S.A.), and Ms. Delphine Allard (who I understood at the time was a chemist for Petitioner).

14. During the meeting, we discussed the three-step Olaplex "bond builder" hair care system as well as other proprietary technology relating to other chemicals (maleic acid) which had a protective effect when used during hair bleaching.

15. Under the NDA, I provided Petitioner with a copy of Patent Owner's then-unpublished maleic acid patent application describing Patent Owner's proprietary technology that is now disclosed and claimed in the '954 patent. Exhibit 1030 is a true and correct copy of the patent application that I handed directly to Ms. Allard during the May 19, 2015 meeting. I recall her reading the application during the meeting. At that time, this patent application was secret and was not publicly available.

16. At some point later, Dr. Pressly arrived and joined the meeting. The general substance of Petitioner's questions during the meeting related to the technology invented by Drs. Hawker and Pressly, the development and testing of that technology, and the unpublished patent application, which I had earlier given to Ms. Allard. I told Petitioner's representatives that cheaper alternatives to Olaplex's active were contained in the patent application that I had earlier given to Ms. Allard.

17. Petitioner's representatives spoke with Dr. Pressly and asked him questions. Ms. Allard asked how we determined which compounds (including maleic acid) were effective and which were not.

18. At the conclusion of the meeting, Petitioner's representatives took the application describing use of maleic acid during bleaching that I had provided to Ms. Allard earlier in the meeting.

19. In May 2015, Petitioner did not have any commercially available products that I was aware of which used maleic acid as an additive in a method for bleaching hair. During our discussions about Petitioner acquiring Olaplex, Petitioner never told me that they had developed a maleic acid-based additive for using during bleaching. During these meetings, Petitioner had obtained information that I believe it needed to develop new products copying Patent Owner's proprietary maleic acid technology.

20. Later in 2015, by September, Mr. Dolden returned to Los Angeles and met with me. During that meeting, Mr. Dolden informed me that Petitioner was no longer interested in purchasing our technology, including the maleic acid bleaching additive technology described and claimed in the '954 patent.

21. In August of 2016, L'Oréal launched two products in the United States: Bond Ultim8 Step 1 Amplifier under the Matrix line and pH-Bonder #1 Bond Protecting Additive under the Redken brand. In November of 2016, L'Oréal

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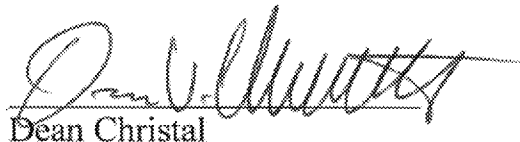
also launched a third product Smartbond Step 1 Additive sold under its L'Oréal Professionnel line in the United States. In this declaration, I refer to these products collectively as the "Copy Products."

22. The Copy Products were Petitioner's first commercially available products that used maleic acid as an additive in a method for bleaching hair.

23. I believed at that time, and continue to believe, that the Copy Products use the '954 patent's technology and that Petitioner had improperly used information that it obtained from me to develop the Copy Products.

I declare, under the penalty of perjury, that the foregoing is true and correct.

Executed October 31, 2018, at Santa Barbara, California.



Dean Christal

Exhibit D

PGR 2017-00012

Filed on behalf of Liqwd, Inc.
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CONTAINS CONFIDENTIAL INFORMATION

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

L'ORÉAL USA, INC.,
Petitioner,

v.

LIQWD, INC.,
Patent Owner.

Case PGR 2017-00012
Patent No. 9,498,419

DECLARATION OF EDWARD T. BORISH, PH.D.

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Patent Trial & Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

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I, Edward T. Borish, Ph.D., declare as follows:

I. INTRODUCTION

1. I am currently the Vice President of Research and Development with Global Seven, Inc., a producer of specialty chemicals for personal care, household and industrial products, and an independent consultant with ANA Innovation LLC, which helps clients develop new business opportunities in biotechnology, mass and salon marketing, educational/scientific publishing, and retail merchandising.

2. I have been retained by Liqwd, Inc. ("Patent Owner") as an independent expert consultant in the above-referenced post grant review proceeding regarding U.S. Patent No. 9,498,419 ("the '419 patent"). I have been asked to analyze the validity of certain claims of the '419 patent, including the teachings of the prior art and the state of the art.

3. I submit this declaration in support of Patent Owner's Response to the Post Grant Review Petition filed by Petitioner L'Oréal USA, Inc. ("Petitioner") in proceeding PGR2017-00012. I understand that the Patent Trial and Appeal Board ("Board") has instituted proceedings with respect to claims 1-8 and 10 of the '419 patent only. I have been asked to provide my opinions regarding whether claims 1-8 and 10 of the '419 patent are invalid in view of the following two grounds:

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Ground	'419 Patent Claims	References
#1	1–8 and 10	Ogawa et al. U.S. Patent No. 7,044,986 (“Ogawa”) in view of German Patent 1 220 969 (“DE ’969”) and Korean Patent 10–2006– 0059564 (“KR ’564”)
#2	1–8 and 10	Kitabata et al. U.S. Patent Publ. 2002/0189034 (“Kitabata”) in view of DE ’969 and KR ’564

4. I am being compensated for my time spent in connection with this matter at my usual rate of \$420 per hour. I have no financial interest in the outcome of this proceeding, and my compensation is unaffected by the content of my testimony.

5. This declaration identifies my opinions to date. I reserve the right to supplement this declaration, if allowed by the Board under the relevant rules, to address any new issues raised by Petitioner or its experts, or resulting from further rulings of the Board or otherwise from further proceedings.

6. I base the following opinions on my personal knowledge and experience, as well as my review of the relevant documents as listed below.

II. QUALIFICATIONS

7. I have approximately 35 years of academic and professional experience in the field of cosmetic science, and over 25 years of overlapping experience relating to the development of hair care products.

8. I obtained a Bachelor of Science (Chemistry) degree at the University of Massachusetts at Lowell in Lowell, Massachusetts, in 1979, and a Doctor of Philosophy (Ph.D.) degree in Inorganic Chemistry at the University of Rhode Island in Kingston, Rhode Island, where my thesis research involved Silver (III) redox reactions, in 1984.

9. I have taught in the areas of chemistry, biochemistry, and cosmetics science at the University of Cincinnati as an Adjunct Professor and at Louisiana State University and the University of Rhode Island.

10. I was a Post-Doctoral Research Associate and Senior Post-Doctoral Researcher at Louisiana State University in Baton Rouge, Louisiana, where I studied free radical biochemistry, from 1984 to 1987.

11. In 1987, I left academia and joined Helene Curtis, Inc. as a senior chemist, where my work involved identifying and developing technologies and products for the salon and mass markets.

12. In 1990, I left Helene Curtis to pursue an opportunity with a subsidiary of Kodak (L&F Products). I was the group leader charged with

developing new hair care and skin care products. This work led to a number of products that were commercialized, including Ogilvie Tender Color Hair Color, and a new perm product called Heat Activated Whisper Wave.

13. I joined a division of Shiseido Company Ltd. (Zotos International) as Vice President of Research and Development from 1993 through 1997. I was responsible for directing all aspects of research and development regarding personal care products for the salon business. Among the innovations that we worked on were innovations for hair growth, sunscreens, sunless tanners, and dietary supplements.

14. In 1999, I joined Bath & Body Works as Director of Research and Development, and helped launch 800 new products during a three-year period. Among my responsibilities was directing development of high performance skin and hair care lines, and antibacterial products.

15. In 2002, I joined Global Seven, where I am currently employed.

16. I have over 50 patents, publications, and presentations covering both applied and basic research relating to chemistry, biochemistry and associated sciences, and design and development of products in the health and personal care industry.

17. I have consulted for numerous hair care companies, including Abercrombie & Fitch (the famous American fashion brand), Dragoco Gerberding

& Co. AG (an international supplier of perfume compositions, aroma chemicals, cosmetic raw materials and active ingredients, and flavors), and Genencor (a biotechnology company that is now part of DuPont), to name a few.

18. I have authored and/or co-authored a number of articles and book chapters relating to hair care products. The complete list of my publications is provided in my curriculum vitae.

19. My curriculum vitae is attached as Exhibit 2026 and further highlights my education, experience, and qualifications as an expert in formulating and testing hair care products.

III. SUMMARY OF OPINIONS

20. I conclude that claims 1–8 and 10 of the '419 patent would not have been obvious to a person of ordinary skill in the art or POSITA as of May 16, 2014 over (a) Ogawa in view of DE '969 and KR '564, or (b) Kitabata in view of DE '969 and KR '564.

21. My opinions are based upon: my review of the '419 patent, the file history of the '419 patent, and when necessary a review of the prior art cited in the '419 patent; my review of Petitioner's petition for Post Grant Review of the '419 patent, the references relied on by Petitioner, Mr. Nandagiri's declaration, and the Board's Decision on Institution of PGR; exhibits cited in this declaration, my education, knowledge, and experience; my understanding of basic science as well

as principles, and practices in the field of cosmetic science; my review of testing performed at my direction and described herein; and the perspective of a POSITA.

IV. LEGAL STANDARDS

22. I am not a legal expert and offer no opinions on the law. However, counsel has informed me of the legal standards that apply with respect to determining patent validity.

23. I have been informed that a patent includes the written description of one or more preferred embodiments of the invention, figures, and one or more claims that point out and claim the subject matter of the invention. The claims define and measure the patent's scope. Each claim defines a separate invention.

24. I have been informed that the determination of patent validity requires a two-step process. First, the language of the claims being evaluated is construed. Second, the construed claims are compared to the prior art.

A. CLAIM CONSTRUCTION

25. I have been advised that in a post grant review, the Board gives claim terms in an unexpired patent their broadest reasonable construction in light of the specification in which they appear. Claim terms also are given their ordinary and customary meaning, as would be understood by a POSITA in the context of the entire patent disclosure.

26. I also have been informed and understand that if the patentee has clearly defined a claim term in the patent specification or file history, such definition is applied.

B. OBVIOUSNESS

27. It is my understanding that where a single prior art reference does not disclose all of the limitations of a claim, the claim may still be invalid if differences between the patented subject matter and the prior art are such that the subject matter as a whole would have been obvious, at the time the invention was made, to a POSITA to which said subject matter pertains.

28. I also understand that obviousness is a factual inquiry, where the following factors guide the analysis: (a) the scope and content of the prior art; (b) the differences between the prior art and the claims at issue; (c) the level of ordinary skill in the art; and (d) the objective secondary factors of nonobviousness (for example, copying, long-felt unmet need, and unexpected results).

29. I have been informed by counsel and I understand that, in order to evaluate the obviousness of the '419 patent claims over a given prior art combination, I should analyze whether the prior art references disclose every limitation of the challenged claims either explicitly or inherently, as those references are read by the POSITA at the time of the invention. Then I am to determine whether that combination makes the claimed invention, as a whole,

obvious to the POSITA by a preponderance of the evidence, at the time of the invention.

30. I further understand that, although obviousness may be shown by a combination of prior art references, there must be a reason (whether explicit or implicit) to combine elements found in the prior art and to arrange them as set forth in the patented subject matter. I understand that the law requires that there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

31. I further have been informed and understand that a reference may be said to teach away from a particular modification when a POSITA, upon reading the reference, would be discouraged from following the path set out in the reference or would be led in a direction divergent from the path that was taken by the inventors.

32. It is also my understanding that the objective secondary factors must be considered before determining whether the claimed invention would have been obvious to one of skill in the art at the time of invention.

33. I understand that, notwithstanding what the teachings of the prior art would have suggested to a POSITA at the time of the invention, the totality of the evidence submitted, including objective evidence of nonobviousness, may lead to a conclusion that the challenged claims would not have been obvious to a POSITA.

34. I understand there must also be a causal relationship, termed a “nexus,” between the objective evidence of non-obviousness and the claimed invention. I understand that all types of objective evidence of non-obviousness must be shown to have a nexus. The stronger the showing of a nexus, the greater the weight accorded the objective evidence of non-obviousness.

C. BURDEN OF PROOF

35. It is my understanding that Petitioner bears the burden of proving by a preponderance of the evidence that claims 1–8 and 10 of the ’419 patent are invalid. I understand that the preponderance of the evidence standard is satisfied if the proposition is more likely to be true than to be not true.

36. I have applied the standards described above to the best of my ability in my analysis of the validity of claims 1–8 and 10 of the ’419 patent as described herein.

V. THE ’419 PATENT

A. BACKGROUND AND STATE-OF-THE-ART AS OF THE PRIORITY DATE OF THE ’419 PATENT, MAY 16, 2014

37. The ’419 patent relates to an innovative way to protect hair during damaging bleaching treatments.

38. Hair fibers consist primarily of fibrous proteins belonging to the keratin family. Proteins are polymers consisting of polypeptide chains formed from condensation (or bonding) of amino acid building blocks. A feature that

distinguishes keratin from other fibrous proteins is a high content of the sulfur containing amino acid cystine.

39. Cystine forms covalent crosslinks (or bonds) between polypeptide chains. These crosslinks are responsible for the high degree of physical and chemical stability of keratin.

40. Morphologically, hair structure has three distinct components: the cuticle, the cortex, and the medulla. The shingle-like cuticle layer forms the hair's exterior and encloses the corticular mass. The cortex constitutes the bulk of the hair fiber and contains tightly packed elongated cortical cells oriented parallel to the fiber axis. These cells contain α -helical microfibrils embedded in a cystine-rich amorphous protein matrix. Melanin pigment granules are located within the cortex of the hair fiber. (Ex. 2027, 2). The medulla is located toward the center of the hair fiber. It is composed of loosely attached spongy cells and makes up only a small percentage of the hair fiber.

41. By its nature, hair bleaching is very destructive. As the '419 patent explains, many harsh chemical treatments involve chemicals that can break these natural bonds in the hair, and can cause severe hair damage, especially when chemical treatments are repeated. (Ex. 1001, Col. 1, line 24 – Col. 2, line 10; Col. 2, lines 23–33; Col. 23, line 63 – Col. 24, line 2).

42. For example, bleaching typically lightens hair color by oxidation reactions. Chemicals are applied to the hair, which react with the color pigment in the hair and change the pigment so that it no longer imparts a color to the hair. A typical bleaching process involves two components: powder lightener (also known as bleach powder) and developer. (*Id.*, Col. 16, lines 56–58). Powder lightener is generally a salt of a persulfate. Developer is generally hydrogen peroxide, which in combination with the persulfate is the oxidizing agent.

43. An important aspect of bleaching formulations is inclusion of alkali, which is used to raise the pH and swell hair fibers. (Ex. 1007, 2; Ex. 1008, ¶15). This swelling makes hair fibers permeable to bleaching chemicals, which must penetrate into the hair fibers to reach the melanin granules or other pigments inside the hair fiber in order to oxidize them and decolor the hair. (Ex. 1008, ¶15; Ex. 1012, 6). The alkali also helps to accelerate the bleaching action by elevating the pH. (Ex. 2027, 6 (“peroxide solutions are only active for bleaching in alkaline solution;” and “bleaching markedly decreases with decreasing pH.”)).

44. Melanin is the natural pigment present inside of hair fibers. Hair bleach helps to remove visible color in hair by first permeating into the hair fiber and reaching the melanin, and then aggressively oxidizing it so that it no longer imparts color on the hair fiber. (*Id.*). Initially, the hydrogen peroxide dissolves and disperses melanin granules, which can lighten hair color to a small degree. (*Id.*, 7).

This dissolution/dispersion step by itself is not bleaching, because the pigment is not destroyed and remains able to color hair. A slower decoloration step follows, where the melanin and artificial pigments are chemically altered. (*Id.*).

45. To accomplish hair bleaching, an alkaline mixture with both hydrogen peroxide developer and bleach powder are most commonly used. The bleach powder is often referred to as a “booster,” because it contains persulfates that increase the oxidizing power significantly over developer alone. (*Id.*). Together the peroxide and the persulfates work together in a complementary fashion synergistically to aggressively oxidize the melanin and pigments during hair bleaching. (*Id.*, 6–7).

46. The use of bleach powder with developer is a much more aggressive oxidant than developer alone. (*Id.*, 6 (“peroxide alone is too slow” if “extensive bleaching” is required)). A POSITA would appreciate that persulfates are one of the strongest oxidants available. The oxidative strength of persulfates makes them suitable, for example, to remediate soil and cleanup wastewater/groundwater. Sulfate free radicals produced by persulfates when they are in the presence of transition metals (such as iron) allow them to destroy toxic waste in soil and groundwater. (Ex. 2028, 1, 3–4, 5–6). These same free radicals could potentially have disastrous consequences if they were produced in the same quantities during hair bleaching.

47. In addition to changing hair pigment as intended, the bleaching process can also create harmful side reactions within the hair shaft. (Ex. 2027, 7). One of the side reactions is oxidizing the disulfide bonds in hair that are important to its strength. (*Id.*; Ex. 2029, 6). This oxidization breaks the disulfide bonds, thus weakening the hair. (Ex. 2027, 7).

48. The problem that bleaching causes damage to hair has long been known. DE '969 was filed in 1964 and discloses that repeated bleaching causes numerous problems including making hair brittle, opening the hair cuticles and making hair appear “lusterless and dull.” (Ex. 1004, p. 1).

49. Thirty years later, textbooks continued to report, “the aggressive nature of the bleaching mixtures can result in significant damage to hair.” (Ex. 2027, 6–7). Some of the damage affects the aesthetic quality of the hair, causing it to lose its luster and appear “flat.” (*Id.*, 6). It was believed that this damage was caused by oxidation of cysteine to cysteic acid. (*Id.*, 7). This weakened hair structure by damaging disulfide crosslinks. (*Id.*). This is perceptible damage and the hair is brittle, more likely to break, and more sensitive to humidity. (*Id.*).

50. Oxidative hair bleaching was known to destroy disulfide bonds within the keratin (causing weakening of the hair) and to damage the cuticle. (Ex. 2029, 6). Even shortly before the effective filing date of the '419 patent, experts describes that bleaching altered the physical properties of hair, lowering its

mechanical strength and giving hair a rough, straw-like feel. (Ex. 1012, 16). The evidence that bleaching was known to damage hair is so overwhelming that even Petitioner's expert declarant (Mr. Nandagiri) conceded, "the bleaching process has long been known to damage hair, causing it to be brittle, dull, and otherwise diminished in appearance." (Ex. 1008, ¶16).

51. Prior to the '419 patent, hair damaged by bleaching was treated after-the-fact with toners, conditioners, oils, and silicones intended to mask the structural damage caused by prior bleaching. (Ex. 2027, 6, 7, 13; Ex. 2021, ¶¶27, 31, 34-39). However, these treatments only masked the underlying problem, and they did not repair the damage, or prevent it. (Ex. 2021, ¶¶41-42).

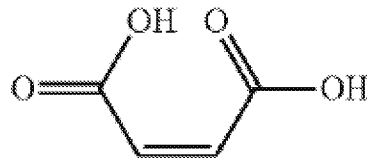
B. THE CLAIMED INVENTION OF THE '419 PATENT

52. The '419 patented method is a new approach, and addresses the underlying problem by preventing or repairing damage to hair during bleaching. This invention solved the previously unmet need for a way to address damage during oxidative hair bleaching.

53. As described in the '419 patent, formulations with active ingredients are applied in connection with the hair bleaching treatment. (Ex. 1001, Col. 3, line 20-35). One of the claimed methods for bleaching involves combining a formulation with maleic acid (or its salt form) with a bleaching formulation to create a mixture with a specific concentration range of the active ingredient, which

then is applied to hair during the bleaching process. (*Id.*, Col. 25, line 42–Col. 26, line 5).

54. Maleic acid has the chemical structure shown below:



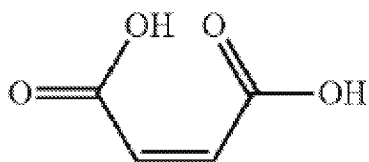
55. The '419 patent has ten claims including one independent claim (claim 1). As claim 1 sets forth, after mixing two formulations (an active agent formulation and a bleaching formulation), the mixture is applied to the hair. The claim identifies the active agent (maleic acid), and describes the concentration of that agent in the mixture. (Ex. 1001, Col. 25, line 41–Col. 26, line 3). Consistent with the claims being directed to hair bleaching (and not hair coloring), the last claim element excludes “hair coloring agent[s]” from the mixture. (*Id.*, Col. 26, lines 4–5).

56. Claim 1 is reproduced below:

Independent Claim 1 of the '419 Patent

1. A method for bleaching hair comprising:

(a) mixing a formulation comprising an active agent with a bleaching formulation, wherein the active agent has the formula:



or salts thereof; and

(b) applying the mixture to the hair;

wherein the active agent in the mixture is at a concentration ranging

from about 0.1% by weight to about 50% by weight; and

wherein the mixture does not contain a hair coloring agent.

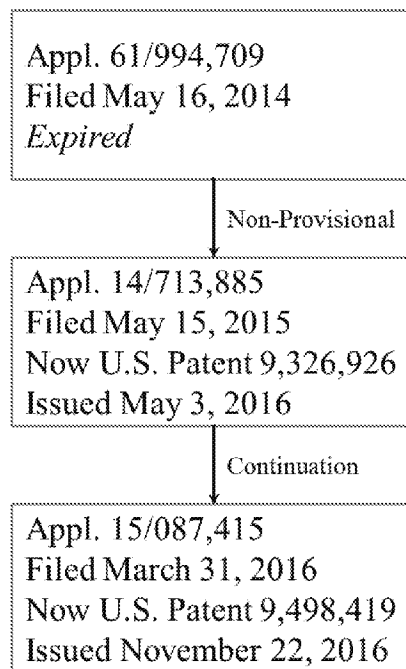
57. In step (a), a mixture is formed from two formulations: (1) an active agent formulation containing maleic acid or salts thereof, and (2) a bleaching formulation. (Ex. 1001, Col. 25, lines 43–53). Then, in step (b), the combined active agent and bleaching formulations, i.e., the bleaching mixture, is applied to hair. (*Id.*, Col. 25, line 54).

58. Claim 1 imposes two conditions on the bleaching mixture that is applied to the hair. First, the active agent (maleic acid or salts thereof) must be

present in the mixture applied to the hair at a concentration of about 0.1 wt. % to about 50 wt. %. (*Id.*, Col. 26, lines 1–3). Second, the mixture applied to the hair cannot contain a hair coloring agent. (*Id.*, Col. 26, lines 4–5).

VI. PROSECUTION HISTORY OF THE '419 PATENT

59. The '419 patent issued on November 22, 2016 from a family of three patent applications dating back to May 16, 2014:



60. After prosecution of the '419 patent (and the earlier priority applications), claims 1–10 were allowed in light of thorough consideration of more than 135 prior art references cited on the face of the patent. (*Id.*, item (56) at cover page and pp. 2–3). The prosecution of the underlying application from its initial

filing on March 31, 2016 through to its issuance on November 22, 2016 gives additional context for the claim language at issue here.

61. A Rule 132 declaration by Dr. Eric Pressly (one of the co-inventors), submitted on August 23, 2016 (Ex. 1009), demonstrates that hair bleached according to patented method (using maleic acid or maleic acid salts in a bleaching mixture) resulted in hair which showed little or no breakage, had great or good feel, and had a healthy appearance by visual inspection. (Ex. 1009, ¶¶5, 9, 10). In contrast, hair treated with similar chemicals (e.g., monosodium succinate, malic acid, citric acid), outside the scope of the '419 patent claims did not provide the same or even similar benefits. (*Id.*, ¶¶9, 10).

62. The Examiner explained the reasons for allowance. First, the claimed hair bleaching methods using maleic acid (or its salt) as an active agent at a concentration from about 0.1 to about 50% by weight and in the absence of a hair coloring agent were *not* present in the art of record. (Ex. 1011, 9). Second, declarations filed by Liqwd (including the Pressly declaration discussed above) helped overcome potential rejections based on references of record (including Petitioner's Ogawa, Kitabata, and DE '969 references). (*Id.*). As the Examiner found, the prior art "does not teach mixing maleic acid with a bleaching formulation and applying the mixture to hair." (*Id.*). Prior to the invention, "one of ordinary skill in the art would not expect free thiol groups to form from a bleaching

formulation,” and there would be no motivation to add maleic acid to a hair bleaching formulation. (*Id.*).

63. Four separate third-party prior art submissions were provided to the U.S. Patent and Trademark Office in an unsuccessful campaign to prevent the ’419 patent from issuing. These submissions identified five alleged prior art references—including three of the four references now at issue in this Petition. One of the submissions (Ex. 2005) argued that Ogawa anticipates the ’419 patent claims. The Examiner fully considered the identified prior art and reasoning, and found none of it persuasive. (Exs. 1011, 2004–2008).

VII. LEVEL OF ORDINARY SKILL IN THE ART

64. I understand that patent claim construction and patentability are generally analyzed from the perspective of a POSITA at the time the patent application was filed.

65. I understand that the POSITA is a hypothetical person who is presumed to have known the relevant art at the time of the invention. I understand that factors that may be considered in determining the level of ordinary skill in the art may include: (a) type of problems encountered in the art; (b) prior art solutions to those problems; (c) rapidity with which innovations are made; (d) sophistication of the technology; and (e) educational level of active workers in the field.

66. I understand that the '419 patent claims priority to May 16, 2014. My opinions herein are based on what a POSITA would have understood as of about May 16, 2014.

67. My opinion on the level of ordinary skill in the art is based on my personal knowledge and experience as well as my consideration of such things as the education and experience level of persons of skill working in the field.

68. In my opinion, the field of invention is cosmetic science. More specifically, the '419 patent relates to methods for rebuilding the disulfide bonds in keratin found in hair. (Ex. 1001, Abstract). A POSITA as of May 16, 2014 would have a college degree in chemistry or an associated science. In addition, a POSITA would have had several years of work experience.

69. I have reviewed the declaration of Arun Nandagiri (Exhibit 1008). In that declaration, Mr. Nandagiri gives his opinion as to the skill level of a POSITA at the time of the invention of the '419 patent: "someone with at least an Associate's degree in chemistry, chemical engineering, or a related field, and at least 5–7 years of laboratory experience with formulation and testing of hair care products, with special emphasis on reactive products; or someone with a Ph.D. in chemistry, chemical engineering, or a related field and with at least minimal prior laboratory experience with formulation and testing of hair care products." (Ex.

1008, ¶26). I had at least the qualifications of a POSITA under this definition at the time that the '419 patent was filed.

70. In my opinion, Mr. Nandagiri has created an unrealistically high level of skill in the art. In my knowledge and experience, a person formulating a hair care products often would not have 5–7 years of laboratory experience in formulation and testing of hair care products. Also, someone with a Ph.D. in chemistry, chemical engineering, or a related field would not typically be involved in the day-to-day process of formulating a hair care products in a laboratory. However, my opinions in this declaration do not change whether my definition of a POSITA or Mr. Nandagiri's definition is used.

VIII. CLAIM CONSTRUCTION

71. In my opinion, claims 1–8 and 10 contain a term that may require construction by the Board, which I analyze below.

A. "HAIR COLORING AGENTS"

72. The '419 patent claims require "wherein the mixture does not contain a hair coloring agent." (Ex. 1001 at claim 1). In its Decision, the Board found that this phrase means, "wherein the mixture applied to the hair does not have a colorant or pigment that is customarily used in hair care products, which changes the color or tone of the hair it is applied to based on visual inspection." (Paper 17, 6). I agree with the Board's construction.

73. The '419 patent claims describe hair bleaching methods. The claim language itself makes clear that the focus is on the mixture of the active agent formulation and the bleaching formulation. The specificity of the language chosen tells me that it is that active agent/bleaching formulation mixture itself, which must be evaluated to determine if it contains a hair coloring agent. In other words, this claim language requires an evaluation of whether the chemicals *as used in that mixture* can actually color hair.

74. This focus is important because bleaching formulations are very destructive, particularly to colorants and pigments. The oxidizing agents (peroxide, persulfate) can oxidize various chemicals so that they are incapable of coloring hair. For example, melanin (the natural pigment that colors hair) is destroyed by a properly applied bleaching mixture. Artificial pigments also are destroyed by a properly applied bleaching mixture.

75. The alkalinity or high pH of bleaching mixtures also affects the ability of hair to be colored by various chemicals. When hair is exposed to solutions with pH greater than the isoelectric point of hair (which is slightly less than 4), negative charge builds up on the surface of the hair fibers. (Ex. 2030, 40, 41, 60). This charge build up is why hair fibers sometimes appear to repel one another (like two ends of a magnet), and that's when you get static flyaway. Similarly, negatively

charged chemicals are repelled by the negatively charged hair fibers when applied to the hair at typical pH of bleaching mixtures (9–11).

76. This is why negatively charged acid dyes are commonly used in small amounts to color the bulk of shampoos and conditioner products. For example, Redken Curvaceous conditioner contains both CI 19140/Yellow 5 and CI 42090/Blue 1, Matrix Biolage Advanced shampoo contains CI 19140/ Yellow 5, and Pureology (one of Petitioner’s brands) Strength Cure conditioner contains CI 14700/Red 4. (Ex. 2031, 2; Ex. 2032, 2; Ex. 2033, 2). Because of the negative charge build-up on the hair fibers at the pH where these products are applied to hair, the small amounts of negatively charged acid dyes do not and cannot actually color hair. These shampoo and conditioner products use product coloring acid dyes and are neither intended to color hair nor labeled as coloring hair.

77. Further, in my judgment it is important to consider the negotiations that lead to the issuance of the ’419 patent, which make it clear that the colorant or pigment must actually color the hair and not just the active agent/bleaching formulation mixture. In the August 23, 2016 Amendment, the word “hair” was added before “coloring agent.” (Ex. 1010, 2). This change alone emphasizes to me that the coloring agent must color hair in the claimed method.

78. Then, the remarks specifically contrasted colors or pigments that change the color of hair based on visual inspection with common agents that color

hair care products but do not color hair when applied to the hair based on visual inspection. (*Id.*, 7). This statement reinforces my view that the coloring agent must color hair when used in the claimed method.

79. In my opinion, a POSITA would not regard as a “hair coloring agent” within the scope of the ’419 patent any chemicals that are incapable of coloring hair in the active agent/bleaching formulation mixture in the claimed method.

IX. FACTUAL ASSESSMENT OF THE GROUNDS FOR INSTITUTION

80. I have been informed and understand from reviewing the Board’s Institution Decision (Paper 17) that the Board found for purposes of initiating this proceeding that it is more likely than not that claims 1–8 and 10 of the ’419 patent are unpatentable as obvious over (a) the combination of Ogawa, DE ’969, and KR ’564, and (b) the combination of Kitabata, DE ’969, and KR ’564.

81. I have been asked to evaluate the Board’s decision and to assess Petitioner’s contention that it would have been obvious to modify Ogawa’s example 3 by replacing two chelators (EDTA and ascorbic acid) with maleic acid as allegedly disclosed in DE ’969 and KR ’564, and if doing so would have resulted in a method for bleaching hair that met each limitation of claims 1–8 and 10 of the ’419 patent.

82. I also have been asked to evaluate the Board’s decision and to assess Petitioner’s contention that it would have been obvious to modify Kitabata’s methods for bleaching hair by replacing a first pH adjustor with maleic acid as allegedly disclosed in DE ’969 and KR ’564, and if doing so would have resulted in a method for bleaching hair that met each limitation of claims 1–8 and 10 of the ’419 patent.

83. As described below, my analysis leads me to conclude that claims 1–8 and 10 would not have been obvious to a POSITA as of May 16, 2014 because there are differences between the ’419 patent claims and the disclosures of the cited references. Further, it would not have been obvious to modify Ogawa or Kitabata to incorporate maleic acid into a bleaching mixture in a hair bleaching method in light of the disclosures of DE ’969 and KR ’564. DE ’969 and KR ’564 actually lead away from the proposed combination.

A. FIRST PRIMARY REFERENCE OF THE GROUNDS—OGAWA (EX. 1002)

84. Ogawa is the primary reference relied on in the first instituted ground of rejection (Ogawa in view of two secondary references, DE ’969 and KR ’564).

85. The Board recognized that Ogawa relates to “hair dye compositions” that “do not give off an intensely irritating order and have low irritating property.” (Paper 17 at 8, citing Ex. 1002 at cover page, item [57]).

86. The claims of Ogawa relate to hair dyeing methods and do not describe hair bleaching methods at all. For example, Ogawa's claim 1 expressly states, "[a] method of dyeing the hair." (Ex. 1002, Col. 7, line 44). Hair dyeing refers to the imparting or adding of color to hair, which is the opposite of hair bleaching, which removes coloring from hair.

87. "Bleach packs" or "hair bleaches" are a very limited aspect of Ogawa. Ogawa first mentions its "inventive" hair bleaches in column 3 and says they "may not contain such an oxidation dye intermediate" in contrast to hair dyes which may. (Ex. 1002, Col. 3, lines 28–31; *see also id.*, Col. 4, lines 22–24). Later, Ogawa expresses a preference to mix "a first bleach pack" with a second pack including "an oxidizing agent" (e.g., hydrogen peroxide) upon use, and provides a "mixing ratio" that outlines the relative amounts of the bleach pack and the second pack to be used. (*Id.*, Col. 4, lines 25–39). These passages do not describe any other ingredients of the bleach pack or the second pack.

88. Maleic acid is entirely omitted from the only specific bleach pack disclosed by Ogawa—Example 3. (*Id.*, Col. 7, lines 11–31). Although it is called a "bleach pack" by Ogawa, the 15-ingredient formulation omits hair bleaching agents entirely. (*Id.*). Instead, it is an alkali pack that contains alkali agents (e.g., aqueous ammonia and monoethanolamine). (*Id.*, Col. 7, lines 15, 19). Ogawa also

fails to describe the intended functions of the listed non-bleach ingredients in that formulation.

89. In my opinion, a POSITA would not regard the Example 3 bleach pack to be a “bleaching formulation” within the meaning of the ’419 patent, because it does not contain hydrogen peroxide, persulfate or any bleaching agent.

90. Example 3 also instructs to mix that particular Example 3 bleach pack with a “second pack” whose formulation is shown in Table 2. (*Id.*, Col. 7, lines 5–7). Table 2 sets forth a highly acidic formulation containing hydrogen peroxide. (*Id.*, Col. 6, lines 20–25). Table 2 formulation also omits maleic acid. (*Id.*). Thus, Ogawa fails to describe mixing maleic acid with a bleaching formulation during bleaching or specific concentrations of maleic acid in the final bleach mixture.

91. Although the second pack contains hydrogen peroxide, the pH of the second pack is 3.5. Therefore, the peroxide would be stable at room temperature at that pH, and would be an ineffective bleaching agent.

92. Ogawa never describes the second pack as a bleaching formulation.

93. Ogawa describes adding the first pack and second pack in Example 3 together “in an equal amount (by weight).” (Ex. 1002, Col. 7, lines 5–7). However, Ogawa never describes the pH of the combined mixture in Example 3, and therefore it is unclear if the resulting pH of the mixture would be high enough to actually bleach hair.

94. Ogawa mentions maleic acid just once, and only in connection with hair dyeing. Petitioner relies on that discussion of “illustrative” chelating agents “ingredient (D),” one of which is maleic acid. (*Id.*, Col. 2, line 61–Col. 3, line 1). However, ingredient (D) is only described in connection with hair dyeing compositions. (*Id.*, Col. 2, lines 1–14). For example, Ogawa mentions “maleic acid” as a possible “chelating agent (D)” in claim 8 which is a “method of dyeing hair.” (*Id.*, Col. 8, lines 34–39). Similarly, Ogawa describes concentration ranges of chelating agents only in the context of hair dyes. (*Id.*, Col. 3, lines 4–7 and Col. 8, lines 28–30).

95. “[N]o particular limitation” is placed by Ogawa on the choice of chelator. (*Id.*, Col. 2, lines 61–64). All that is required is that the chelator (a) “has ability to chelate metal ions” and (b) “is commonly used in cosmetic preparations.” (*Id.*). In addition, to the listed agents, their various salt forms can be used. (*Id.*, Col. 2, line 63–Col. 3, line 1). Instead of a small list of possible chelators, Ogawa teaches a potentially very large set of these materials.

96. There is no disclosure anywhere in Ogawa to use maleic acid in “bleach packs” or for use in a method for bleaching hair. Nor has Petitioner identified any teaching in Ogawa that the discussion of “ingredient (D)” or “chelating agent (D)” in connection with hair dyes applies to methods for

bleaching hair, much less what would motivate a POSITA to combine these separate teachings in Ogawa.

97. Ogawa also never provides a concentration range for chelating agents in any context, much less a maleic acid concentration range for use in methods for bleaching hair.

B. SECOND PRIMARY REFERENCE OF THE GROUNDS—KITABATA
(Ex. 1005)

98. Kitabata is the primary reference relied on in the second instituted ground of rejection (Kitabata in view of two secondary references, DE '969 and KR '564).

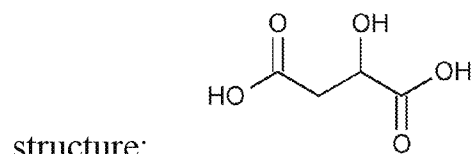
99. Kitabata discloses a hair treatment method involving application to hair of a “hair dyeing/hair bleaching” composition having at least four ingredients. One of these ingredients is the “at least one first pH adjustor selected from the group consisting of polycarboxylic acids and their salts.” (Ex. 1005, ¶¶0020–24, ¶¶0062–66, and claim 13).

100. For polycarboxylic acids, there are “no particular restrictions ... so long as they are ... commonly used as pH adjustors in cosmetics,” although citric,

tartaric, and malic¹ acids (or their salts)-are preferred. (*Id.*, ¶¶0025, 0039). Maleic acid is one of fourteen “example” acids listed for the first pH adjustor. (*Id.*, ¶0039). The pH adjustor can also be any of the numerous physiologically acceptable salts of those polycarboxylic acids. (*Id.*). Further adding to the permissible options for the pH adjustor is Kitabata’s teaching that the compositions may contain more than one pH adjustor, without further guidance regarding the combinations of pH adjusters that may be used. (*Id.*, ¶0016 (“at least one”)). Instead of a small set of 14 possible pH adjustors, Kitabata teaches a virtually infinite set of these materials.

101. Another aspect of Kitabata is a two-agent hair dyeing/bleach composition. An alkali-containing “primary agent” has the first pH adjustor present at a concentration of 0.1–10 wt. %. (*Id.*, ¶0026). That primary agent is used with an oxidant-containing secondary agent at any mixing ratio, however Kitabata indicates that preferred mixing ratios are in the range of 1:0.5 to 1:3. (*Id.*, ¶0061).

¹ “Malic acid” should not be confused with “maleic acid.” Despite having a similar name, it is structurally distinct from maleic acid. Malic acid has the following



102. Five so-called bleaching examples are shown in Table 1. (*Id.*, ¶0087). Each example contains only malic acid or a salt of citric acid (trisodium citrate). (*Id.*). None of the bleaching examples uses maleic acid.

103. Kitabata (a) never describes mixing maleic acid with a bleaching formulation, and (b) never provides a general concentration range for the first pH adjustor for use in hair bleaching methods, much less a specific concentration range for maleic acid for use in hair bleaching methods.

C. SECONDARY REFERENCE DE '969 (EXS. 1003 AND 1004)

104. DE '969 is a secondary reference relied on in both the first and second instituted grounds of rejection.

105. DE '969 relates to a specific hair treatment method for already damaged hair. An acidic leave-on treatment solution allegedly improves the look of the hair by smoothing and consolidating the hair's surface. (Paper 17 at 11, citing Ex. 1004 at p. 2, lines 7–14). Nothing in DE '969 teaches that its particular treatment solution is used with an alkaline bleaching formulation or that the DE '969 method can be used during hair bleaching. The opposite is true: the methods described in DE '969 are wholly incompatible with use during bleaching.

106. DE '969 acknowledges chemical hair treatments (perming, bleaching and coloring) damage hair. (*Id.*, p. 1, lines 24–32). Alkali is used in various hair treatments (including bleaching) to raise the pH and swell hair fibers. (Ex. 1007, 2;

Ex. 1008, ¶15; Ex. 2027, 6, 7). This swelling makes hair fibers permeable to bleaching chemicals, which must penetrate into the hair fibers to reach the melanin granules or other pigments inside the hair fiber in order to oxidize them and decolor the hair. (Ex. 1008, ¶15; Ex. 1012, 16–17).

107. Swelling of the hair fibers can damage the outer protective cuticle layer. If alkali is not completely removed at the end of the chemical treatment, then the hair fibers will remain in a swollen state with cuticles lifted, creating a rough hair surface. (Ex. 1004, p. 1, lines 29–30; Ex. 1007, 2). The surface roughness scatters light (rather than reflects light like smooth, untreated hair). This results in a dull appearance as well as a coarse feel. (Ex. 1004, p. 2, lines 7–10).

108. DE '969 also acknowledges that various acids (tannic acid, lactic acid, or citric acid) can smooth previously roughened hair fiber surfaces after chemical treatments. (*Id.*, p. 1, line 34 – p. 2, line 3). The effect is “particularly high” when the acids adhere to the hair surface. (*Id.*, p. 2, lines 3–5).

109. DE '969 proposes another leave-on acidic treatment method for use after bleaching has been completed. (*Id.*, p. 2, lines 30–37). When this method is carried out properly, DE '969 says that the surface of previously damaged hair is smoothed. (*Id.*, p. 2, lines 7–10 and p. 3, lines 24–26). In particular, the treatment solution includes (a) maleic acid or its substitution products, (b) a “surface-active substance” to ensure the solution wets the hair, (c) an acidic buffer substances “to

facilitate attachment of the unsaturated acids to the keratine substances,”
(d) glycerol distearate or glycerol monostearate, and (e) “sugar substances” to
“improve[] the mechanical properties of the hair after the treatment.” (*Id.*, p. 2,
lines 12–17; *Id.*, p. 3, lines 4–12 and 34–37). Then, the treatment solution is
massaged into the hair, and the hair is dried under a hair dryer “with the solution
remaining in the hair.” (*Id.*, p. 3, lines 37–39).

110. This post-treatment method is said to have an “astringent” effect on
the hair according to DE ’969. (*Id.*, p. 1, line 34–p. 2, line 5). A POSITA would
understand this is because the acid neutralizes residual alkali resulting in “de-
swelling” or tightening of the hair shaft allowing the cuticles to lay flat, and results
in a smoother more reflective surface that is shinier and feels softer similar to
untreated hair. (Ex. 1007, 2; Ex. 1012, 17).

111. However, the DE ’969 method cannot be used during bleaching. The
alleged benefit of DE ’969 (i.e., “astonishing structural improvement of the hair
surface”) requires an acidic pH of 1.9 to 4.0, which are far from the alkaline pH
used in hair bleaching methods. (*Id.*, p. 3, lines 8–12 and 23–26). DE ’969 uses
“buffer substances” (glycocoll) in the after-the-fact treatment solution to maintain
that pH. (*Id.*, p. 3, line 34–p. 4, line 15). A POSITA would understand this ensures
that the treatment solution has an acidic pH at or below the isoelectric point of the
hair. (Ex. 1007, 6). At that pH range, hair fibers have a net positive charge and

would not repel maleic acid/substitution products. By doing this, “a firm substantial attachment” forms between the maleic acid/substitution products and the hair according to DE '969. (*Id.*, p. 2, lines 19–28).

112. A POSITA would not expect such bonding to occur at alkaline pH. Hair fibers at alkaline pH are above their isoelectric point, and therefore hair fibers have a net negative charge during bleaching. That negative charge on the hair fibers repels negatively charged molecules, such as maleic acid/substitution products.

113. DE '969 also teaches that at acidic pH the addition of maleic acid will react with peroxides in order to counteract post-oxidation and provide an astringent effect. (*Id.*, p. 2, lines 30–37). This reaction will create acids other than maleic acid (i.e., oxyacids and peroxyacids). (*Id.*). These other acids will display the very same “astringent action” as maleic acid (“same desired purpose of surface smoothing.”) (*Id.*). A POSITA would understand that this astringent effect occurs with any acid that decreases pH sufficiently and neutralizes alkali so that the hair fibers converge or de-swell. (*Id.*, p. 1, line 36–p. 2, line 5; Ex. 1007, p. 2, ¶16; Ex. 1012, 17). There is no teaching that any of these benefits will result at alkaline pH.

114. DE '969 speculates that its leave-on treatment solution somehow reacts with the hair, but I disagree. DE '969 says “unsaturated compounds” provide firm cuticle attachment to the cortex because “chemical bonds have formed by

reaction of the C–C-double bonds to the amino acid and hydroxyl groups of the keratin substances.” (Ex. 1004, p. 2, lines 23–28). However, the examples of DE ’969 show that could not happen. Each example has a treatment solution formulated with amine groups (glycocoll or glycine) as well as hydroxyl groups (water, glycerol, sugars). (*Id.*, p. 3, 34–37). If the mechanism proposed in DE ’969 were actually operative, then the maleic acid/substitution products would have reacted with the amino acid and hydroxyl groups in the treatment solution long before it was applied to the hair. This would render the maleic acid entirely unavailable to react with hair when the treatment solution is later applied to the hair.

115. Also, the DE ’969 method teaches that the acidic treatment is left on the hair; it is literally dried onto the hair. (*Id.*, p. 3, lines 37–39). The treatment is not rinsed from the hair. In contrast, bleaching involves temporary application of alkaline chemicals, which are rinsed-off to avoid over-processing the hair. Leaving the alkaline chemicals from a bleach formulation on hair indefinitely would cause significant hair and scalp damage. It would be unsafe.

116. Finally, DE ’969 also lacks information about appropriate maleic acid concentrations for use in a hair bleaching mixture. While the DE ’969 acidic, leave-on treatment solution is said to contain 0.3–4% maleic acid or substitution products, (*Id.*, p. 2, lines 12–17, p. 5, lines 10–12), those disclosures do not provide

information on the concentration of maleic acid that would be used in a mixture with a bleaching formulation as it would be applied during bleaching.

117. The Patent Examiner confirmed this understanding that DE '969 is not pertinent to the '419 patent claims (which are methods for bleaching hair): “since '969 does not teach mixing maleic acid with a bleaching composition, it does not appear to disclose the instantly claimed invention.” (Ex. 1011, 14). “DE 1220969 was not directed to a method of bleaching hair, thus it would not render the instant claims obvious.” (*Id.*).

118. The Examiner also rejected the very same arguments, confirming that “astonishing structural improvement of the hair surface” provided by the method of DE '969 was not better than the “especially great” smoothing effect of prior art methods using lactic and citric acid compositions:

[I]t is not taught [in DE '969] that maleic acid is better than lactic or citric acid. The reference states that the surface smoothing [] effect of those astringent substances is especially great.

(*Id.*). The Examiner also noted that comparative data showing a tangible benefit is lacking from DE '969, for example. (*Id.* (“Since there was no comparison in the reference the examiner was unable [to] determine the purported ‘significant progress’.”)).

D. SECONDARY REFERENCE KR '564 (EXS. 1006 AND 1007)

119. KR '564 is another secondary reference relied on in both the first and second instituted grounds of rejection.

120. KR '564 relates to a mild acid hair treatment agent with a pH of 4–5. (Paper 17 at 11, citing Ex. 1007 at 1, 3). Applying a mild acid rinse neutralizes and removes left over alkali residues. This “maintain[s] the isoelectric point of hair” after the chemical treatment. (Ex. 1007, 1, 2). Nothing in KR '564 teaches mixing a mild acid hair treatment agent with a bleaching formulation or even during hair bleaching.

121. KR '564 teaches that it is “necessary” to neutralize and remove alkali substances with acid or an acidic composition to prevent further hair damage after chemical hair treatments. (*Id.*, 2). However, for bleaching to be effective, bleaching formulations must be alkaline (pH of 9–11), not acidic. (Ex. 1005, ¶¶0028, 0042, 0069; Ex. 1008, ¶15; Ex. 1012, 17).

122. KR '564 describes the use of a “wide range” of mild acids: “an organic acid, lactic acid, citric acid, malic acid, oxalic acid, acetic acid, tartaric acid, adipic acid, succinic acid, maleic acid, glutamic acid, fumaric acid, pyruvic acid, gluconic acid, citric acid, picric acid, aspartic acid, terebic acid and the like.” (Ex. 1007, 3).

123. KR '564 never expresses a preference for maleic acid. Instead, it says the results achieved by the post-bleaching acid rinse “slightly differed” depending on the acid used, (*id.*, 6), and KR '564 does not describe any supposed advantages of using maleic acid over any other mild acid. To the contrary, KR '564 explicitly directs one to select lactic acid in view of its data, noting “among the types of mild acid used ... in the examples it was found that lactic acid has the best stability, that the pH thereof can be reduced by even a small amount more than with other acid types, that the pH of the product can be preserved for a long time (2–3 years), and that it exhibits particularly excellent effects.” (*Id.*).

124. KR '564 specifies that the acidic composition has a pH range of 4–5, (*id.*, 3), but is silent on the amount of maleic acid or any other acid that should be used in a post-bleaching acid rinse. For example, the experiments described in KR '564 say that acid diluted with water to a pH 4–5 was sprayed on hair, allowed it to sit for 10–20 minutes, and then rinsed from the hair. (*Id.*, 3).

125. None of the examples of KR '564 teaches to mix mild acids (like maleic acid) with a bleaching formulation or even to use the mild acid treatment in a bleaching method.

126. Further, KR '564 teaches that its desired pH range causes the hair to “converge[]” or de-swell. (*Id.*, 2). Adding mild acid to a bleaching formulation would be expected to react with the alkaline (or alkalizing) agent, but KR '564

recognizes that hair bleaching requires “synergizing effects” of hydrogen peroxide and alkaline agents. (*Id.*, 2). In addition to neutralizing the alkaline agents, the maleic acid would be expected to decrease pH, and “bleaching markedly decreases with decreasing pH.” (Ex. 2027, 6). This disclosure would have led a POSITA away from mixing mild acids (like maleic acid) with a bleaching formulation during a bleaching method.

127. KR ’564 suggests that the mild acid treatment agents may be used “alone as a treatment agent” or may be “preliminarily added to a permanent wave agent, dyeing agent and the like as an additive for various hair treatment solvents.” (*Id.*, 3). A POSITA would understand that such chemical treatments are performed at significantly higher pH than taught by KR ’564 (4–5). Thus, a POSITA would understand both uses to involve applying the mild acid treatment to hair previously damaged by chemical treatments.

128. This understanding of KR ’564 is consistent with Petitioner’s understanding. The Petition repeatedly describes the mild acid treatment agent as being used as a post-treatment during bleaching process:

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Petition (Paper 2)	Petitioner's Characterization of KR '564
p. 19	"... KR '564 teaches that a post-treatment of maleic acid can be included as an additive in a bleaching process. (Ex. 1007, 3.)"
p. 46	"The PHOSITA would have been motivated to specifically use maleic acid as the chelating agent in the methods for bleaching hair disclosed in Ogawa based on ... KR '564's disclosure of a post-treatment of maleic acid used as an additive in a bleaching process."

129. KR '564's description that the mild acid treatment is used on hair "alone" means that a client would receive the treatment to address existing damage. The description of being "preliminarily added" to "various hair treatment solvents" means that the mild acid treatment is applied with a solvent to already damaged hair. The next sentence describes the solvents ("purified water, lotion or hair oil"). (*Id.*). Omitted from that list is any mention of mixing the mild acid treatment with a bleaching formulation. Using a mild acid agent as a post-treatment alone or in a solvent can neutralize and remove residual alkali that would be left in

the hair after rinsing the hair dye, the permanent wave, or even hair bleach. (Ex. 1007, 2; Ex. 1012, 17).

130. However, Mr. Nandagiri argues this sentence teaches adding the mild acid “during a bleaching process” or to a bleaching mixture in order to prevent damage. (Ex. 1008, ¶¶64, 148). I disagree if Mr. Nandagiri is suggesting that KR ’564 teaches mixing the acid treatments with pH of 4–5 into bleaching formulations during hair bleaching. First, that paragraph in KR ’564 fails to mention bleaching at all:

In addition to being used alone as a treatment agent, the hair treatment agent according to the present invention may be preliminarily added to a *permanent wave agent*, *dyeing agent* and the like as an additive for various hair treatment solvents.

(Ex. 1007, p. 3, ¶3 (emphasis added); *compare* Ex. 1007, 6 (claim 1 directed to “chemical treatments such as permanent wave, dyeing, *bleaching* and the like”)(emphasis added)). At most, this would be a teaching to combine a mild acid with “a permanent wave agent” or “dyeing agent,” and also a “hair treatment solvent” (i.e., water, lotion or hair oil). KR ’564 never goes on to describe how this solution would, or even could, be used in any hair care process, including during hair bleaching.

131. Second, a POSITA would understand that neutralizing alkali with mild acid (as KR '564 intends) and driving the pH down to 4–5 during bleaching would be counter-productive. The hair bleaching process would be impeded by neutralizing all of the alkali, which provides “synergistic effects” with peroxide during bleaching. (*Id.*, 2). The hair bleaching process also would be impeded by decreasing pH which “markedly decreases” the effectiveness of bleaching. (Ex. 2027, 6). If the treatment solution failed to fully neutralize the alkali and drive down the pH to 4–5, then the hair would remain in an expanded condition, contrary to the intent of KR '564. (*Id.*)

132. In no way does KR '564 teach to add mild acid to a bleaching formulation.

X. NONOBVIOUSNESS OF '419 PATENT CLAIMS 1–8 AND 10

A. GROUND #1—THE CLAIMED HAIR BLEACHING METHOD WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014 IN LIGHT OF OGAWA IN VIEW OF DE '969 AND KR '564

133. Instituted ground #1 asserts that claims 1–8 and 10 would have been obvious in light of Ogawa in combination with DE '969 and KR '564. I disagree that a POSITA would find all of the claim elements in the cited references or would combine these references to achieve the hair bleaching method set forth in the '419 patent claims. First, Ogawa fails to disclose mixing maleic acid with a

bleaching formulation and fails to describe the claimed maleic acid concentrations for use in a mixture with a bleaching formulation.

134. Second, both DE '969 and KR '564 suffer from the same deficiency which is both fail to disclose mixing maleic acid with a bleaching formulation or to describe the claimed maleic acid concentrations. To the contrary, DE '969 and KR '564 disclose after-the-fact acid treatments, which are incompatible with bleaching formulations and operate very differently from Ogawa and from one another.

135. Third, a POSITA would not have been motivated to add maleic acid to Ogawa because of a lack of expectation that maleic acid would successfully act to protect hair during bleaching. A POSITA would have lacked that expectation because both DE '969 and KR '564 fail to relate any benefit directly to mixing maleic acid with a bleaching formulation. If anything, the teachings of DE '969 and KR '564 teach away from mixing maleic acid with a bleaching formulation.

1. Ogawa Fails to Disclose Use of Maleic Acid in a Method for Bleaching Hair, or the Claimed Maleic Acid Concentrations for Bleaching Treatments.

136. In my opinion, a POSITA would have recognized that Ogawa's disclosure does not include a teaching to mix maleic acid with a bleaching formulation in a hair bleaching method.

137. Ogawa's claims relate to hair dyeing methods and not hair bleaching. For example, Ogawa's claim 1 states, "[a] method of dyeing the hair." (Ex. 1002, Col. 7, line 44). Hair dyeing refers to the imparting or adding of color to hair, which is the opposite of hair bleaching, which removes coloring from hair.

138. "Bleach packs" or "hair bleaches" are a very limited aspect of Ogawa. Ogawa first mentions "hair bleaches" in column 3 and says they "may not contain such an oxidation dye intermediate." (Ex. 1002, Col. 3, lines 28–31; see also *id.*, Col. 4, lines 22–24). Later, Ogawa expresses a preference to mix "a first bleach pack" with a second pack including "an oxidizing agent" (e.g., hydrogen peroxide) upon use, and provides a "mixing ratio" that outlines the relative amounts of the bleach pack and the second pack to be used. (*Id.*, Col. 4, lines 25–39). These passages do not describe any other ingredients of the bleach pack or the second pack.

139. Maleic acid is entirely omitted from the only specific bleach pack disclosed by Ogawa—Example 3. (*Id.*, Col. 7, lines 11–31). Although it is called a "bleach pack" by Ogawa, the 15-ingredient formulation omits hair-bleaching agents entirely. (*Id.*). Instead, it is an alkali pack that contains alkali agents (e.g., aqueous ammonia and monoethanolamine). (*Id.*, Col. 7, lines 15, 19). Ogawa also fails to describe the intended functions of the listed non-bleach ingredients in that formulation.

140. In my opinion, a POSITA would not regard the Example 3 bleach pack to be a “bleaching formulation” within the meaning of the ’419 patent. It does not contain hydrogen peroxide, persulfate or any bleaching agent. (*Id.*, Col. 7, lines 11–31).

141. Example 3 also instructs to mix that particular Example 3 bleach pack with a “second pack” whose formulation is shown in Table 2. (*Id.*, Col. 7, lines 5–7). Table 2 sets forth a highly acidic formulation containing hydrogen peroxide. (*Id.*, Col. 6, lines 20–25). Table 2 formulation also omits maleic acid. (*Id.*).

142. Although the second pack contains hydrogen peroxide, the pH of the second pack is 3.5. The peroxide would be stable at that pH, and would not be an effective bleaching agent.

143. Ogawa never describes the second pack as a bleaching formulation.

144. Ogawa describes that the first pack and second pack in Example 3 are added together “in an equal amount (by weight).” (Ex. 1002, Col. 7, lines 5–7). However, Ogawa never describes the pH of the combined mixture in Example 3.

145. Thus, it is my opinion that a POSITA would have recognized that Ogawa fails to describe mixing maleic acid with a bleaching formulation during bleaching.

146. Ogawa also fails to describe specific concentrations of maleic acid in the final bleach mixture. Although Ogawa discloses that a “chelating agent” (D)

may be incorporated into its hair dye composition “preferably in a proportion of from 0.01 to 10 wt. %” (Ex. 1002, Col. 3, lines 4–7), nothing in Ogawa describes particular maleic acid concentrations for bleaching treatments.

147. Ogawa’s only mention of maleic acid is in connection with hair dyeing. Petitioner relies on that discussion of “illustrative” chelating agents “ingredient (D),” one of which is maleic acid. (*Id.*, Col. 2, line 61–Col. 3, line 1).

148. However, ingredient (D) is only described in connection with hair dyeing compositions. (*Id.*, Col. 2, lines 1–14). For example, Ogawa mentions “maleic acid” as a possible “chelating agent (D)” in claim 8 which is a “method of dyeing hair.” (*Id.*, Col. 8, lines 34–39). There is no disclosure anywhere in Ogawa to use maleic acid in bleach packs or for use during hair bleaching. Nor has Petitioner identified any teaching in Ogawa that the discussion of “ingredient (D)” or “chelating agent (D)” in connection with hair dyes applies to methods for bleaching hair, much less what would motivate a POSITA to combine these separate teachings in Ogawa.

149. For example, Ogawa describes potential amounts of chelating agents only in the context of hair dyes. (*Id.*, Col. 3, lines 4–7 and Col. 8, lines 28–30). For hair bleaching methods, Ogawa never provides a concentration range for chelating agents, much less a concentration range for maleic acid use in such methods.

150. Therefore, it is also my opinion that a POSITA would have recognized that Ogawa's disclosure does not describe a particular maleic acid concentration range for bleaching treatments.

2. DE '969 and KR '564 Also Fail to Disclose Use of Maleic Acid in a Method for Bleaching Hair, or the Claimed Maleic Acid Concentrations for Bleaching Treatments.

151. In my opinion, a POSITA would have recognized that both DE '969 and KR '564 also fail to disclose the use of maleic acid in a method for bleaching hair and fail to disclose a particular maleic acid concentration range for bleaching treatments.

152. DE '969 discloses a method for treating previously damaged hair by applying an acidic leave-on treatment with heat from a hair dryer. (Ex. 1004, p. 2, lines 7–10, p. 3, line 28 –p. 4, line 15). The treatment has a pH of 1.9–4.0. (*Id.*, p. 3, lines 8–12). While DE '969 discloses the use of “maleic acid or substitution products,” (*id.*, p. 2, lines 12–17), it fails to teach to mix maleic acid with a bleaching formulation (which is alkaline), or to use it in a method for bleaching hair. Similarly, DE '969 also fails to disclose a particular maleic acid concentration range for those uses.

153. KR '564 relates to a mild acid rinse that is intended to neutralize and remove alkali residues left over from prior chemical hair treatments. (Ex. 1007, 1,

2). KR '564 discloses numerous organic acids for this purpose, and teaches that their effects are equivalent. (*Id.*, 3, 6 (“results slightly different”)). KR '564 does not disclose a particular maleic acid concentration range to be mixed with a bleaching formulation, used in a method for bleaching hair, or for any purpose at all.

154. Therefore, it is my opinion that a POSITA would have recognized that DE '969 and KR '564 fail to disclose use of maleic acid in a method for bleaching hair, or the claimed maleic acid concentrations for bleaching treatments.

3. It Would Not Have Been Obvious to Modify Ogawa to Select Maleic Acid, Let Alone in the Ranges Specified in '419 Patent Claim 1.

155. The first instituted ground relies on DE '969 and KR '564 to provide a reason to modify Ogawa and select maleic acid to mix with a bleaching formulation, in the ranges specified in '419 patent claim 1. In particular, the Institution decision said that DE '969 would have motivated a POSITA to choose maleic acid for use in carrying out Ogawa's method. (Paper 17 at 13). I disagree because there is no such motivation to change Ogawa's method and arrive at '419 patent claim 1 based on either of the secondary references.

156. DE '969 allegedly discusses a preferred use of maleic acid over other acids (tannic, lactic, and citric acids) to treat hair previously damages by bleaching.

(*Id.*). In particular, the Board focused on the supposed structural improvement of the hair surface resulting from treatment with maleic acid, which it said was “permanent.” (*Id.*).

157. I respectfully disagree. In my opinion, a POSITA would not have been motivated by DE '969 to choose maleic acid for use in carrying out Ogawa's method. Nothing in DE '969 teaches that its particular treatment solution is used with an alkaline bleaching formulation nor that the DE '969 method can be used during hair bleaching. The opposite is true: the methods described in DE '969 are wholly incompatible with use during bleaching.

158. DE '969 relates to a specific hair treatment method that is for use only on previously damaged hair. The acidic leave-on treatment solution of DE '969 allegedly improves the look of the hair by smoothing and consolidating the hair's surface. (Paper 17 at 11, citing Ex. 1004 at p. 2, lines 7–14). DE '969 describes the acid treatment as having a pH of 1.9 to 4.0. (Ex. 1004, p. 3, lines 8–12). Although DE '969 does not provide an explanation for the alleged benefit associated with following its treatment method, a POSITA would have understood that this alleged benefit is achieved by neutralizing residual alkali that may be present in the hair. (*Id.*, p. 1, lines 29–30, p. 2, lines 7–10; Ex. 1007, p. 2, ¶¶13, 18; Ex. 2012, ¶31).

159. A POSITA also would understand this pH range ensures that the treatment solution has an acidic pH at or below the isoelectric point of the hair.

(Ex. 1007, 6). At that pH range, hair fibers have a net positive charge and would not repel maleic acid/substitution products. This allows maleic acid/substitution products to bond with the hair. By doing this, “a firm substantial attachment” forms between the maleic acid/substitution products and the hair according to DE ’969. (Ex. 1004, p. 2, lines 19–28).

160. However, bleaching formulations use alkali to raise pH and swell hair fibers. (Ex. 1007, 2; Ex. 1008, ¶15; Ex. 2027, 6, 7). This swelling makes hair fibers permeable to bleaching chemicals, which must penetrate into the hair fibers to reach the melanin granules or other pigments inside the hair fiber in order to oxidize them and decolor the hair. (Ex. 1008, ¶15; Ex. 1012, 6).

161. A POSITA also would not expect bonding to occur between maleic acid and hair at alkaline pH. Hair fibers at alkaline pH are above the isoelectric point of hair, and therefore the hair fibers have a net negative charge during bleaching. That negative charge on the hair fibers repels negatively charged molecules, such as maleic acid/substitution products.

162. Further, DE ’969 teaches that, at acidic pH, the addition of maleic acid will react with peroxides in order to counteract post-oxidation and provide an astringent effect. (*Id.*, p. 2, lines 30–37). This reaction will create acids other than maleic acid (i.e., oxyacids and peroxyacids). (*Id.*). These other acids will display the very same “astringent action” as maleic acid (“same desired purpose of surface

smoothing.”) (*Id.*). A POSITA would understand that this astringent effect occurs with any acid that decreases pH sufficiently and neutralizes alkali so that the hair fibers converge or de-swell. (*Id.*, p. 1, line 36–p. 2, line 5; Ex. 1007, p. 2, ¶16; Ex. 1012, 17). There is no teaching that any of these benefits will result at alkaline pH.

163. If sufficient amounts of maleic acid were added to make the bleaching mixture acidic, the bleaching process would be inoperative. (Ex. 1008, ¶15; Ex. 1012, 6).

164. If small amounts of maleic acid were added to a mixture containing a bleaching formulation, the maleic acid would be entirely neutralized in the mixture. There would be no maleic acid available in the mixture when applied to the hair to neutralize any residual alkali. In an alkaline environment, the maleic acid would not be expected to have any astringent effect.

165. Therefore, a POSITA would have expected that the addition of maleic acid to a bleaching formulation would either to hinder bleaching by neutralizing alkali and decreasing pH, or to have no benefit as taught by DE '969 because there would be no maleic acid remaining to neutralize residual alkali and therefore no astringent effect. This would have led a POSITA away from selecting maleic acid to add to a mixture with a bleaching formulation.

166. Also, the DE '969 method teaches that the acidic treatment is left on and literally dried onto the hair. (Ex. 1004, p. 3, lines 37–39). DE '969 teaches that tightening or “astringent” action of maleic acid benefits from remaining stuck to the hair surface and for this reason the acidic treatment is not rinsed from the hair. (*Id.*, p. 2, lines 3–5, p. 3, lines 37–39). However, bleaching formulations are applied temporarily to hair and are rinsed-off to avoid over-processing the hair. Leaving the alkaline chemicals from a bleach formulation on hair indefinitely would cause significant hair and scalp damage and would be unsafe. There would be no reason for a POSITA to believe from the disclosure of DE '969 that temporary application of maleic acid in a mixture with a bleaching formulation would provide any benefit.

167. For at least similar reasons, a POSITA also would not have been motivated by KR '564 to choose maleic acid for use in carrying out Ogawa's method. First and foremost, KR '564 never describes any particular benefit that would flow from using maleic acid as opposed to any other mild acid. Instead, KR '564 teaches that all mild acids are essentially equivalent. (Ex. 1007, 6 (“results slightly differed”)). Second, KR '564 never teaches that mixing a mild acid treatment with a bleaching formulation would provide any benefit. Third, the teaching in KR '564 that mild acid treatments at pH of 4–5 should be used to neutralize alkali to prevent hair damage, (*id.*, 2, 3), would have led a POSITA

away from mixing any mild acid with a bleaching formulation. Bleaching is done at a high pH (9–11) and relies on alkali to swell hair fibers. A POSITA would have wanted to avoid mixing mild acids with the bleaching formulation for fear that they would hinder bleaching by neutralizing alkali.

168. Finally, and more generally, a POSITA would have been aware that maleic acid should not be used with oxidizers. Safety Data Sheets provided with maleic acid warn that mixing maleic acid with oxidizers may be detrimental or dangerous. (Ex. 2034, 5, 6). A POSITA would have respected these warnings and would have sought to avoid combining incompatible materials with one another. In my opinion, POSITA would therefore understand that maleic acid is not a good candidate to include in a bleaching composition.

169. Section 2 of the Safety Data Sheet for maleic acid identifies hazards associated with maleic acid. (Ex. 2034, 1). This section indicates that maleic acid is a skin sensitizer, which means that maleic acid can cause allergic reactions (e.g., contact dermatitis). (*Id.*). Contact dermatitis involves a systemic allergic response and can persist even after the sensitizer is removed. Once an individual sensitized to a particular chemical, an allergic response can grow increasingly intense with repeated exposure. Severe allergic reactions can be life threatening. This is yet another reason why a POSITA would have sought to avoid mixing maleic acid into a mixture with a bleaching formulation.

170. Therefore, it is my opinion that a POSITA would not have found it obvious in light of DE '969 or KR '564 to modify Ogawa to select maleic acid in place of the EDTA and ascorbic acid used in Ogawa's Example 3, let alone in the ranges specified in '419 patent claim 1.

B. GROUND #2—THE CLAIMED HAIR BLEACHING METHOD WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014 IN LIGHT OF KITABATA IN VIEW OF DE '969 AND KR '564

171. Instituted ground #2 asserts that claims 1–8 and 10 would have been obvious in light of Kitabata in combination with DE '969 and KR '564. I disagree that a POSITA would find all of the claim elements in the cited references or would combine these references to achieve the hair bleaching method set forth in the '419 patent claims. First, Kitabata fails to disclose mixing maleic acid with a bleaching formulation and fails to describe the claimed maleic acid concentrations for use in a mixture with a bleaching formulation.

172. Second, both DE '969 and KR '564 suffer from the same deficiency which is both fail to disclose mixing maleic acid with a bleaching formulation or to describe the claimed maleic acid concentrations. To the contrary, DE '969 and KR '564 disclose after-the-fact acid treatments, which are incompatible with bleaching formulations and operate very differently from Kitabata and also from one another.

173. Third, a POSITA would not have been motivated to add maleic acid to Kitabata because of a lack of expectation that maleic acid would successfully act to protect hair during bleaching. A POSITA would have lacked that expectation because both DE '969 and KR '564 fail to relate any benefit directly to mixing maleic acid with a bleaching formulation. If anything, the teachings of DE '969 and KR '564 teach away from mixing maleic acid with a bleaching formulation.

1. Kitabata Fails to Disclose Use of Maleic Acid in a Method for Bleaching Hair, or the Claimed Maleic Acid Concentrations for Bleaching Treatments.

174. In my opinion, a POSITA would have recognized that Kitabata's disclosure does not include a teaching to mix maleic acid with a bleaching formulation in a hair bleaching method.

175. Kitabata's "hair dyeing/hair bleaching" composition has a primary agent with several ingredients, including "at least one first pH adjustor selected from the group consisting of polycarboxylic acids and their salts." (Ex. 1005, ¶¶0020–24, ¶¶0062–66, and claim 13). Kitabata teaches a virtually infinite set of materials with combinations of fourteen "example" acids and their salts. (*Id.*, ¶¶0025, 0039).

176. Although maleic acid is one of the "example" acids, no particular advantages are disclosed. (*Id.*, ¶0039). The only bleaching examples are shown in

Table 1, and each contains malic acid or a salt of citric acid (trisodium citrate). (*Id.*, ¶0087). Kitabata fails to describe using maleic acid in a hair bleaching method or any particular maleic acid concentrations for use in bleaching treatments.

177. Thus, it is my opinion that a POSITA would have recognized that Kitabata fails to describe mixing maleic acid with a bleaching formulation during bleaching, and also fails to describe a particular maleic acid concentration range for bleaching treatments.

2. DE '969 and KR '564 Also Fail to Disclose Use of Maleic Acid in a Method for Bleaching Hair, or the Claimed Maleic Acid Concentrations for Bleaching Treatments.

178. In my opinion, a POSITA would have recognized that both DE '969 and KR '564 also fail to disclose the use of maleic acid in a method for bleaching hair and fail to disclose a particular maleic acid concentration range for bleaching treatments.

179. DE '969 discloses a method for treating previously damaged hair by applying an acidic leave-on treatment with heat from a hair dryer. (Ex. 1004, p. 2, lines 7–10, p. 3, line 28 – p. 4, line 15). The treatment has a pH of 1.9 – 4.0. (*Id.*, p. 3, lines 8–12). While DE '969 discloses the use of “maleic acid or substitution products,” (*id.*, p. 2, lines 12–17), it fails to teach to mix maleic acid with a bleaching formulation (which is alkaline), or to use it in a method for bleaching

hair. Similarly, DE '969 also fails to disclose a particular maleic acid concentration range for those uses.

180. KR '564 relates to a mild acid rinse that is intended to neutralize and remove alkali residues left over from prior chemical hair treatments. (Ex. 1007, 1, 2). KR '564 discloses numerous organic acids for this purpose, and teaches that their effects are equivalent. (*Id.*, 3, 6 (“results slightly different”)). KR '564 does not disclose a particular maleic acid concentration range to be mixed with a bleaching formulation, used in a method for bleaching hair, or for any purpose at all.

181. Therefore, it is my opinion that a POSITA would have recognized that DE '969 and KR '564 fail to disclose use of maleic acid in a method for bleaching hair, or the claimed maleic acid concentrations for bleaching treatments.

3. It Would Not Have Been Obvious to Modify Kitabata to Select Maleic Acid, Let Alone in the Ranges Specified in '419 Patent Claim 1.

182. The second instituted ground relies on DE '969 and KR '564 to provide a reason to modify Kitabata and select maleic acid to mix with a bleaching formulation, in the ranges specified in '419 patent claim 1. In particular, the Institution decision said that DE '969 would have motivated a POSITA to choose maleic acid for use in carrying out Kitabata's method. (Paper 17 at 20). I disagree

because there is no such motivation to change Kitabata's method and arrive at '419 patent claim 1 based on either of the secondary references.

183. DE '969 allegedly discusses a preferred use of maleic acid over other acids (tannic, lactic, and citric acids) to treat hair previously damages by bleaching. (*Id.*). In particular, the Board focused on the supposed structural improvement of the hair surface resulting from treatment with maleic acid, which it said was "permanent." (*Id.*).

184. I disagree. In my opinion, a POSITA would not have been motivated by DE '969 to choose maleic acid for use in carrying out Kitabata's method. Nothing in DE '969 teaches that its particular treatment solution is useful with an alkaline bleaching formulation nor that the DE '969 method can be used during hair bleaching. The opposite is true: the methods described in DE '969 are wholly incompatible with use during bleaching.

185. DE '969 relates to a specific hair treatment method that is for use only on previously damaged hair. The acidic leave-on treatment solution of DE '969 allegedly improves the look of the hair by smoothing and consolidating the hair's surface. (Paper 17 at 11, citing Ex. 1004 at p. 2, lines 7–14). DE '969 describes the acid treatment as having a pH of 1.9 to 4.0. (Ex. 1004, p. 3, lines 8–12). Although DE '969 does not provide an explanation for the alleged benefit associated with following its treatment method, a POSITA would have understood that this alleged

benefit is achieved by neutralizing residual alkali that may be present in the hair.

(*Id.*, p. 1, lines 29–30, p. 2, lines 7–10; Ex. 1007, 2, ¶¶13, 18; Ex. 2012, ¶31).

186. A POSITA also would understand this pH range ensures that the treatment solution has an acidic pH at or below the isoelectric point of the hair. (Ex. 1007, 6). At that pH range, hair fibers have a net positive charge and would not repel maleic acid/substitution products, allowing them to bond with the hair. By doing this, “a firm substantial attachment” forms between the maleic acid/substitution products and the hair according to DE ’969. (Ex. 1004, p. 2, lines 19–28).

187. However, bleaching formulations use alkali to raise pH and swell hair fibers. (Ex. 1007, 2; Ex. 1008, ¶15; Ex. 2027, 6, 7). This swelling makes hair fibers permeable to bleaching chemicals, which must penetrate into the hair fibers to reach the melanin granules or other pigments inside the hair fiber in order to oxidize them and decolor the hair. (Ex. 1008, ¶15; Ex. 1012, 6).

188. A POSITA also would not expect bonding to occur between maleic acid and hair at alkaline pH. Hair fibers at alkaline pH are above their isoelectric point, and therefore hair fibers have a net negative charge during bleaching. That negative charge on the hair fibers repels negatively charged molecules, such as maleic acid/substitution products.

189. Further, DE '969 teaches that, at acidic pH, the addition of maleic acid will react with peroxides in order to counteract post-oxidation and provide an astringent effect. (*Id.*, p. 2, lines 30–37). This reaction will create acids other than maleic acid (i.e., oxyacids and peroxyacids). (*Id.*). These other acids will display the very same “astringent action” as maleic acid (“same desired purpose of surface smoothing.”) (*Id.*). A POSITA would understand that this astringent effect occurs with any acid that decreases pH sufficiently and neutralizes alkali so that the hair fibers converge or de-swell. (*Id.*, p. 1, line 36–p. 2, line 5; Ex. 1007, p. 2, ¶16; Ex. 1012, 17). There is no teaching that any of these benefits will result at alkaline pH.

190. If sufficient amounts of maleic acid were added to make the bleaching mixture acidic, the bleaching process would be inoperative. (Ex. 1008, ¶15; Ex. 1012, 6).

191. If small amounts of maleic acid were added to a mixture containing a bleaching formulation, the maleic acid would be entirely neutralized in the mixture. There would be no maleic acid available in the mixture when applied to the hair to neutralize any residual alkali. In an alkaline environment, the maleic acid would not be expected to have any astringent effect.

192. Therefore, a POSITA would have expected that the addition of maleic acid to a bleaching formulation would either to hinder bleaching by neutralizing

alkali and decreasing pH, or to have no benefit as taught by DE '969 because there would be no maleic acid remaining to neutralize residual alkali and therefore no astringent effect. This would have led a POSITA away from selecting maleic acid to add to a mixture with a bleaching formulation.

193. Also, the DE '969 method teaches that the acidic treatment is left on and literally dried onto the hair. (Ex. 1004, p. 3, lines 37–39). DE '969 teaches that tightening or “astringent” action of maleic acid benefits from remaining stuck to the hair surface and for this reason the acidic treatment is not rinsed from the hair. (*Id.*, p. 2, lines 3–5, p. 3, lines 37–39). However, bleaching formulations are applied temporarily to hair and are rinsed-off to avoid over-processing the hair. Leaving the alkaline chemicals from a bleach formulation on hair indefinitely would cause significant hair and scalp damage and would be unsafe. There would be no reason for a POSITA to believe from the disclosure of DE '969 that temporary application of maleic acid in a mixture with a bleaching formulation would provide any benefit.

194. For at least similar reasons, a POSITA also would not have been motivated by KR '564 to choose maleic acid for use in carrying out Kitabata's method. First, KR '564 never describes any particular benefit that would flow from using maleic acid as opposed to any other mild acid. Instead, KR '564 teaches that all mild acids are essentially equivalent. (Ex. 1007, 6 (“results slightly differed”)).

Second, KR '564 never teaches that mixing a mild acid treatment with a bleaching formulation would provide any benefit. Third, the teaching in KR '564 that mild acid treatments at pH of 4–5 should be used to neutralize alkali to prevent hair damage, (*id.*, 2, 3), would have led a POSITA away from mixing any mild acid with a bleaching formulation. Bleaching is done at a high pH (9–11) and relies on alkali to swell hair fibers. A POSITA would have wanted to avoid mixing mild acids with the bleaching formulation for fear that they would hinder bleaching by neutralizing alkali.

195. Finally, and more generally, a POSITA would have been aware that maleic acid should not be used with oxidizers. Safety Data Sheets provided with maleic acid warn that mixing maleic acid with oxidizers may be detrimental or dangerous. (Ex. 2034, 5, 6). A POSITA would have respected these warnings and would have sought to avoid combining incompatible materials with one another. In my opinion, POSITA would therefore understand that maleic acid is not a good candidate to include in a bleaching composition.

196. Section 2 of the Safety Data Sheet for maleic acid identifies hazards associated with maleic acid. (Ex. 2034, 1). This section indicates that maleic acid is a skin sensitizer, which means that maleic acid can cause allergic reactions (e.g., contact dermatitis). (*Id.*). Contact dermatitis involves a systemic allergic response and can persist even after the sensitizer is removed. Once an individual sensitized

to a particular chemical, an allergic response can grow increasingly intense with repeated exposure. This is yet another reason why a POSITA would have sought to avoid mixing maleic acid into a mixture with a bleaching formulation.

197. Therefore, it is my opinion that a POSITA would not have found it obvious in light of DE '969 or KR '564 to modify Kitabata to select maleic acid in place of malic acid used in Kitabata's Example 2, let alone in the ranges specified in '419 patent claim 1.

C. OBJECTIVE EVIDENCE DEMONSTRATES THAT CLAIMS 1-8 AND 10
WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014

198. The fact that Claims 1-8 and 10 of the '419 patent are not obvious is also supported by the objective indicia, or so called secondary considerations, of non-obviousness, including long felt but unresolved need for the invention and Petitioner's copying.

1. Long-Felt and Unmet Need as of May 16, 2014

199. I have been informed and understand that a long-felt but unmet need for an invention supports the non-obviousness of the invention. If the invention under consideration was obvious based upon earlier prior art disclosures, the long-felt need would have been met before the time of the invention.

200. In my opinion, a long-felt need in the field of cosmetic science for a method that prevents damage and repairs damage during oxidative hair bleaching

confirms the non-obviousness of the inventions claimed in the relevant claims of the '419 patent.

201. Oxidative bleaching has long been known to cause damage to hair. As early as 1964, the art knew that repeated bleaching caused numerous problems including making hair brittle, opening the hair cuticles, and making hair appear “lusterless and dull.” (Ex. 1004, p. 1). Thirty years later, textbooks and journal articles continued to report, “the aggressive nature of the bleaching mixtures can result in significant damage to hair.” (Ex. 2027, 6–7; see also Ex 2029, 6). It was believed that this damage was caused by oxidation of cysteine to cysteic acid. (Ex. 2027, 7). Shortly before the effective filing date of the '419 patent, experts continued to describe how that bleaching lowered the mechanical strength and damaged hair. (Ex. 1012, 16, 17; Ex. 2045, 6).

202. I have reviewed the Declaration of Thomas Dispenza (Ex. 2021), and find his statements to be compelling proof of the non-obviousness of the inventions. Prior to the '419 patent, hair damaged by bleaching was treated after-the-fact with toners, conditioners, oils, and silicones intended to mask the structural damage caused by prior bleaching. (Ex. 2027, 6, 7, 13; Ex. 2021, ¶¶27, 31, 34–39). However, these treatments only masked the underlying problem, and they did not repair the damage, or prevent it. (Ex. 2021, ¶¶41–42). A POSITA

would have understood that there was no cure of oxidative bleach damage prior to the '419 patent invention.

203. Even Petitioner's expert declarant (Mr. Nandagiri) conceded, "the bleaching process has long been known to damage hair causing it to be brittle, dull, and otherwise diminished in appearance." (Ex. 1008, ¶16).

204. Further, the '419 patent says that the invention rebuilds disulfide bonds in keratin found in hair that would otherwise be damaged by chemical treatments such as bleaching. (Ex. 1001, cover page at item [57]). Petitioner's advertisements for its maleic-acid bleach additives also tout the ability of maleic acid to strengthen and preserve bonds during hair bleaching. (Ex. 2013, 3, 7, 9, 20).

205. Therefore, it is my opinion that a POSITA would have recognized that there was a long-felt and unmet need for a method to prevent damage and repair damage during oxidative hair bleaching and that need was finally met by the '419 patent invention.

2. Petitioner's Choice to Copy the '419 Patent Invention

206. I have been informed and understand that evidence that the Petitioner has copied the invention supports the non-obviousness of the invention. If the invention under consideration were obvious based on prior art disclosures, there

would have been no need to obtain disclosures from Patent Owner and to copy the invention from those disclosures.

207. I have been asked to give my opinion on whether Petitioner's three products ((a) Matrix Bond Ultim8 Step 1 Amplifier; (b) Redken pH-Bonder #1 Bond Protecting Additive; (c) L'Oréal Professionnel Smartbond Step 1 Additive) fall within the scope of properly construed claim elements of the relevant claims of the '419 patent.

208. It is my opinion that each of these three products, if used according to their instructions, would practice the method for bleaching hair set forth in at least claim 1 of the '419 patent and, therefore, embody the relevant claims of the '419 patent as demonstrated below individually for each product.

209. I also have considered Petitioner's advertisements for these products. Various advertisements feature discussions of maleic acid and its alleged benefits in hair bleaching. (Ex. 2013, 3, 7, 9, 20).

210. I have reviewed the Declarations of Dean Christal and Eric Pressly, and find their statements to be compelling proof of the non-obviousness of the inventions. (Exs. 2022 and 2023). The patent application that Mr. Christal provided to Petitioner's representatives discloses the method of using a maleic acid active agent in a method of bleaching hair. (*See, e.g.*, Ex. 2024, 37-38). In my opinion, evidence that Petitioner has copied the invention from disclosures provided by

Patent Owner confirms the non-obviousness of the inventions claimed in the relevant claims of the '419 patent.

211. Below I show that the use of these products as instructed by Petitioner in hair bleaching infringes at least claim 1 of the '419 patent.

Matrix Bond Ultim8 Step 1

212. If the preamble of '419 patent claim 1 is considered a claim limitation, the use of Bond Ultim8 Step 1 according to the instructions provides a method for bleaching or lightening the color of hair. (Ex. 2035, 1 (“Helps protect bonds during lightening”).

213. Use of Bond Ultim8 Step 1 as instructed involves mixing a maleic acid active agent formulation with a bleaching formulation. The Bond Ultim8 Step 1 label identifies maleic acid as an ingredient. (*Id.*). The instructions for use direct the user to mix the STEP 1 additive with a two-part bleaching formulation having peroxide and bleaching powder. (*Id.*; Ex. 2036, 2).

214. Use of Bond Ultim8 Step 1 as instructed also involves applying the additive/bleaching formulation mixture to hair. Petitioner expressly instructs a user to “[a]pply lightener ... as usual” after mixing the maleic acid active agent formulation with the bleaching formulation. (Ex. 2035, 1; Ex. 2036, 2). The next step in the instructions calls for rinsing of the lightener from the hair, which confirms that the mixture is applied to the hair. (Ex. 2036, 2).

215. Bond Ultim8 Step 1 has maleic acid at a concentration of about 10.5 wt. %. (Ex. 2037, 1). Using these test results and/or data, together with the instructions that come with the Bond Ultim8 Step 1, it is possible to determine the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair.

216. The package instructions that accompany Bond Ultim8 Step 1 include a table which specifies amounts of lightener powder, developer, and Step 1 additive to use when bleaching hair. The relevant portion of the table is reproduced as follows:

Lightener (grams)	Developer (ml)	Step 1 Additive (ml)
15–30 g	15–90 ml	4 ml
30–60 g	30–120 ml	8 ml

(Ex. 2036, 2).

217. The amounts of developer and Step 1 additive are given as a volume. To convert these into a mass, I assumed that the density of each was approximately that of water (1 g/ml). Water is expected to be the major component of these compositions, and I have seen nothing in the ingredient lists, material safety data sheets, or any other information source to suggest otherwise.

218. Thus, the total mass of ingredients in the top row was from a minimum of 34 grams (i.e., 15+15+4) to a maximum of 124 grams (i.e., 30+90+4). Using the NMR testing results, I calculated the weight of maleic acid present in 4 ml of Step 1 additive (0.4 grams). From this I calculated the weight percentage of maleic acid present in that mixture to be between 0.3–1.2 wt. %. Following the same process, I determined that the weight percentage of maleic acid present in that mixture in the bottom row to be between 0.4–1.2 wt. %.

219. Thus, my analysis demonstrates that when Bond Ultim8 Step 1 is used according to the instructions the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair is between about 0.1% by weight and about 50% by weight, as claimed in this element.

220. Bond Ultim8 Step 1 includes three generic product-coloring chemicals (CI 19140/Yellow 5, CI 14700/Red 4, CI 42090/Blue 1). (Ex. 2035). The core question is whether Bond Ultim8 Step 1 actually uses CI 19140, CI 14700 and CI 42090 in the bleaching mixture applied to the hair in such a way that they actually color hair. In my opinion, when used as instructed, the mixture applied to the hair does not contain a hair-coloring agent.

221. CI 19140, CI 14700 and CI 42090 are common dyes for coloring products, but I am not aware of any hair dye product, which uses these chemicals to actually impart color to hair in the low concentrations that I believe these

chemical are used in the Bond Ultim8 Step 1. Moreover, all three of these dyes are used in various shampoo and conditioner products marketed by Petitioner, which are neither intended to color hair, nor labeled as coloring hair, as demonstrated below.

222. Redken Curvaceous conditioner contains both CI 19140/Yellow 5 and CI 42090/Blue 1. (Ex. 2031, 2). Matrix Biolage Advanced shampoo also contains CI 19140/ Yellow 5. (Ex. 2032, 2). Pureology (a brand of Petitioner) Strength Cure conditioner contains CI 14700/Red 4. (Ex. 2033, 2). The fact that Petitioner uses the three dyes at issue in its shampoo and conditioner products, and does not label those shampoos and conditioners as products containing hair colorants, further demonstrates that Petitioner does not genuinely consider these dyes to be hair colorants.

223. I also have considered an internal report of Petitioner, which was dated 20 July 2016 and assessed “Impact of the Dyes Used in Bonding Additive P4.” (Ex. 2038). This document identifies the formulation of Bond Ultim8 Step 1 as “1200591.” (*Id.*, 2; see also Ex. 2035, 1; Ex. 2039, 2; Ex. 2040, p. 12 at Tr. 46, lines 17–25).

224. Two additional formulations were tested. One was a version of L'Oréal Professional Smartbond Step 1 without any dyes (Formula 1112405B) and one was a version of Smartbond Step 1 with four times the normal dye load

(Formula 1112405C). The concentrations of the dyes in Bond Ultim8 Step 1 are reported as 0.0001% CI 19140/Yellow 5, 0.000011% of CI 42090/Blue 1, and 0.00008% of CI 14700/Red 4. (Ex. 2038, 2).

225. Each product was tested with both oxidative hair color (Majirel clear) and a bleaching product having both bleach powder and 30-volume developer. (*Id.*). The Results and Conclusion sections report that the Petitioner's maleic acid containing bleach additives do not color hair:

RESULTS:

In all conditions, we did not notice any coloration of the hair (all type of hair – type of product – additives)

* * *

L*a*b* results : no significant differences between 1112405, 1112405B and 1112405C on all types of fibers.

CONCLUSION:

Dyes added into the Bonding additive, at the very low concentration introduced, have the only properties to color the bulk of the additive but none properties to color hair.

(*Id.* at 3).

226. Another internal report produced by Petitioner, dated July 21, 2016, assesses whether the dyes added in Bond Ultim8 Step 1 “will only color the bulk of the additive and not the hair.” (Ex. 2039, 2). In this report, the Bond Ultim8 Step 1 formulation is compared with a similar formulation that entirely omits the three dyes. (*Id.*; Ex. 2040, pp. 22–24 at Tr. 126, line 20–Tr. 128, line 8). Yet again, no coloration of the hair was detected. (Ex. 2039, 3). The conclusion is that the dyes in Bond Ultim8 Step 1 only “color the bulk of the additive” and do not have the “properties to color hair.” (*Id.*).

227. From this, I understand that Petitioner deliberately formulated the Bond Ultim8 Step 1 product in order to avoid coloring hair.

228. In my opinion, the Bond Ultim8 Step 1 product does not contain a hair coloring agent. When these products are used as Petitioner instructs for bleaching hair, the bleaching mixture does not contain a hair coloring agent and no product colorant present would be expected to act as a hair coloring agent.

229. The following Table 1 summarizes where each element of claim 1 of the '419 patent is practiced by the use of Petitioner's Bond Ultim8 Step 1 product as instructed:

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TABLE 1

<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
1. A method for bleaching hair comprising:	To the extent that the preamble is considered a claim limitation, the use of Bond Ultim8 Step 1 according to the instructions provides a method for bleaching or lightening the color of hair.
(a) mixing a formulation comprising an active agent with a bleaching formulation,	<p>The label on Bond Ultim8 Step 1 lists the ingredients that it contains. The second ingredient is identified as “maleic acid,” which is the active agent:</p> <p>1200591-INGREDIENTS: AQUA / WATER, MALEIC ACID, ETHANOLAMINE, CITRIC ACID, CI 19140 / YELLOW 5, CI 14700 / RED 4, CI 42090 / BLUE 1 (D191397/2)</p> <p>(Ex. 2035, 1 excerpt, with emphasis added.). Thus, Bond Ultim8 Step 1 is a formulation comprising an active agent.</p> <p>The instructions provided on the bottle of Bond Ultim8 Step 1 direct the user to mix</p>

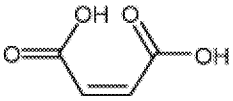
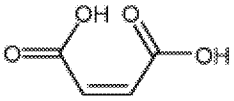
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<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
	<p>STEP 1, including its active agent maleic acid, with a two-part bleaching formulation :</p> <p>STEP 1: BOND ULTIM8 AMPLIFIER treatment helps prevent breakage during lightening services. To use: Mix your lightener or color, with developer, as usual, before adding STEP 1. LIGHTENER: add 4mL (1/8oz) of STEP 1 for every 15-30 grams (1/2 - 1 oz) of powder or 8 mL (1/4 oz) of BOND ULTIM8 STEP 1 for every 30-60 grams (1 - 2 oz) of powder used in mixture. COLOR: add 4mL (1/8oz) of STEP 1 for every 60 grams (2 oz) of colorant used in mixture. Apply lightener or color as usual. Rinse color from hair – do not shampoo. Dry thoroughly with a towel. Follow with STEP 2. Store Upright. Rinse Syringe after each use.</p> <p>(Ex. 2035, 1 excerpt, with emphasis added.).</p> <p>The package instructions (included in the box when Bond Ultim8 Step 1 is sold) further describe the bleaching formulation:</p>

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<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
	<p>DIRECTIONS FOR USE:</p> <p>STEP 1: AMPLIFIER</p> <ol style="list-style-type: none"> 1. Mix your lightener or color as usual. 2. Add 4ml of STEP 1 per 15g of lightener powder to the mixture. Use 8ml (1/4 oz.) of STEP 1 when mixing 30g or more of lightener powder. 3. Apply lightener or color as usual. <p>(Ex. 2036, 2 excerpt, with emphasis added.) The words “powder” and “lightener powder” refer to bleaching powder. The bleaching formulation is therefore the combination of bleach and developer.</p> <p>For the foregoing reasons, use of Bond Ultim8 Step 1 as instructed involves mixing a formulation comprising an active agent with a bleaching formulation.</p>
wherein the active	The label on Bond Ultim8 Step 1 lists the ingredients that it contains. The second

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<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
<p>agent has the formula:</p>  <p>or</p> <p>salts thereof; and</p>	<p>ingredient is identified as “maleic acid,” which is the active agent. (Ex. 2035, 1). The chemical structural formula of maleic acid is depicted below:</p>  <p>Bond Ultim8 Step 1 therefore has an active agent with formula shown in the claim.</p>
<p>(b) applying the mixture to the hair;</p>	<p>As documented above, the instructions provided on the bottle (Ex. 2035, 1), and those that are included in the packaging provided with Bond Ultim8 Step 1 (Ex. 2036, 2), direct the user to “[a]pply lightener ... as usual” after mixing the additive into the bleaching formation. The mixture is being applied to the hair.</p> <p>To the extent this is not self-evident; step “4.” of the package instructions directs the user to “Rinse lightener ... from hair” (which confirms that the mixture is applied to the hair):</p>

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<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
	<p>DIRECTIONS FOR USE:</p> <p>STEP 1: AMPLIFIER</p> <ol style="list-style-type: none"> 1. Mix your lightener or color as usual. 2. Add 4ml of STEP 1 per 15g of lightener powder to the mixture. Use 8ml (¼ oz.) of STEP 1 when mixing 30g or more of lightener powder. 3. Apply lightener or color as usual. 4. Rinse lightener color from hair – do not shampoo. Dry thoroughly with a towel. <p>(Ex. 2036, 2 excerpt, with emphasis added.)²</p> <p>Therefore, the use of Bond Ultim8 Step 1 as instructed involves applying the additive/bleaching formulation mixture to hair.</p>
wherein the active	As discussed above, Bond Ultim8 Step 1 contains the active agent maleic acid. At my

² The reference to “lightener color” in item 4 appears to be a typographical error. Consistent with items 1 and 3 of the same instructions, I understand and believe that item 4 should read “lightener or color”.

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Claim Language	Infringement by Use of Matrix Bond Ultim8 Step 1														
agent in the mixture is at a concentration ranging from about 0.1% by weight to about 50% by weight; and	<p>direction, Bond Ultim8 Step 1 was tested at an independent laboratory, ANALYZE INC., which determined that maleic acid was present in the Bond Ultim8 Step 1 bottle at a concentration of about 10.5 ±0.1 % by weight:</p> <p>Quantitative ¹H NMR spectroscopy was used to determine the concentrations of both the maleic acid (MA) and monoethanolamine (MEA) using calcium formate as the internal standard.</p> <p>The average values of the triplicate NMR assay results are listed in Summary Table I</p> <p>Summary Table I – MA and MEA Assay Results</p> <table><tr><th rowspan="2">Sample ID</th><th>[MA]</th><th>[MEA]</th></tr><tr><th>Wt-%</th><th>Wt-%</th></tr><tr><td>Sample 1 - Redken pH Bonder Step 1</td><td>10.6</td><td>5.5</td></tr><tr><td>Sample 2 - Matrix Bond Ultim 8 Step 1</td><td>10.5</td><td>5.4</td></tr><tr><td>Sample 3 - L'Oreal Smartbond Step 1</td><td>10.2</td><td>5.4</td></tr></table> <p>The precision of the analyses is good with all average values of the triplicate analyses having a standard deviation of less than ± 0.1.</p>	Sample ID	[MA]	[MEA]	Wt-%	Wt-%	Sample 1 - Redken pH Bonder Step 1	10.6	5.5	Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4	Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4
Sample ID	[MA]		[MEA]												
	Wt-%	Wt-%													
Sample 1 - Redken pH Bonder Step 1	10.6	5.5													
Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4													
Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4													

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Claim Language	Infringement by Use of Matrix Bond Ultim8 Step 1											
	<p>(Ex. 2037, 1, with emphasis added; note that ¹H NMR is the acronym for Proton Nuclear Magnetic Resonance Spectroscopy, where such spectroscopy services were performed for ANALYZE INC. by the independent laboratory Spectral Data Systems of Champaign, Illinois.)</p> <p>The Bond Ultim8 Step 1 Instructions (Ex. 2036, 1) contain a table that specifies the amounts of lighter or bleaching powder, developer and Bond Ultim8 Step 1 to use when bleaching:</p> <table><tr><th colspan="2">Lightener/Color (as indicated)</th><th>Developer (6.7, 10-40 volume)</th><th>STEP 1 Additive</th></tr><tr><td rowspan="2">Powder</td><td>15g-30g</td><td>15-90ml (½-3 oz.)</td><td>4ml (1/8 oz.)</td></tr><tr><td>30g-60g</td><td>30-120ml (1-4 oz.)</td><td>8ml (1/4 oz.)</td></tr></table>	Lightener/Color (as indicated)		Developer (6.7, 10-40 volume)	STEP 1 Additive	Powder	15g-30g	15-90ml (½-3 oz.)	4ml (1/8 oz.)	30g-60g	30-120ml (1-4 oz.)	8ml (1/4 oz.)
Lightener/Color (as indicated)		Developer (6.7, 10-40 volume)	STEP 1 Additive									
Powder	15g-30g	15-90ml (½-3 oz.)	4ml (1/8 oz.)									
	30g-60g	30-120ml (1-4 oz.)	8ml (1/4 oz.)									

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<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>																																																						
	<p>When Bond Ultim8 Step 1 is mixed with bleach and developer per the package instructions, the concentration of active agent in the mixture varies from 0.3% by weight to 1.2% by weight, as shown in the table below:</p> <table> <tr> <th>Bleach</th><th colspan="2">Developer</th><th colspan="2">Additive</th><th>Maleic acid</th><th>Total</th><th>Maleic acid</th></tr> <tr> <th>(g)</th><th>(ml)</th><th>(g)</th><th>(ml)</th><th>(g)</th><th>(g)</th><th>(g)</th><th>(wt%)</th></tr> <tr> <td>15</td><td>15</td><td>15</td><td>4</td><td>4</td><td>0.42</td><td>34.0</td><td>1.2%</td></tr> <tr> <td>15</td><td>90</td><td>90</td><td>4</td><td>4</td><td>0.42</td><td>109.0</td><td>0.4%</td></tr> <tr> <td>30</td><td>15</td><td>15</td><td>4</td><td>4</td><td>0.42</td><td>49.0</td><td>0.9%</td></tr> <tr> <td>30</td><td>90</td><td>90</td><td>4</td><td>4</td><td>0.42</td><td>124.0</td><td>0.3%</td></tr> </table>							Bleach	Developer		Additive		Maleic acid	Total	Maleic acid	(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(wt%)	15	15	15	4	4	0.42	34.0	1.2%	15	90	90	4	4	0.42	109.0	0.4%	30	15	15	4	4	0.42	49.0	0.9%	30	90	90	4	4	0.42	124.0	0.3%
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Claim Language	Infringement by Use of Matrix Bond Ultim8 Step 1							
	Bleach	Developer		Additive		Maleic acid	Total	Maleic acid
	(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(wt%)
	30	30	30	8	8	0.84	68.0	1.2%
	30	120	120	8	8	0.84	158.0	0.5%
	60	30	30	8	8	0.84	98.0	0.9%
	60	120	120	8	8	0.84	188.0	0.4%
	Each of these values is within the claimed range from about 0.1% by weight to about 50% by weight.							
wherein the mixture	The claimed mixture is the combination of Bond Ultim8 Step 1 with the bleaching							

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<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
does not contain a hair coloring agent.	<p>formulation. I reviewed the label of Bond Ultim8 Step 1, as well as the labels of the Matrix-branded bleaching powder and developer, to determine what ingredients they contain. From this review, I have confirmed that they do not contain hair coloring agents.</p> <p>“Hair coloring agent” has a well-understood plain and ordinary meaning that is set forth in the file history of the ’419 patent, namely, “a colorant or pigment that is customarily used in hair care products, which changes the color or tone of the hair it is applied to based on visual inspection.” (Ex. 1010, 7). For example, a colorant or pigment that is intended to, for example, permanently or demi-permanently change the color or tone of hair is typically diffused into the hair fibers themselves during hair coloring, and then oxidized by hydrogen peroxide into active intermediates. (See also Ex. 1001, Col. 16, line 43 – Col. 17, line 14 and Col. 20, lines 30–36). These intermediates then react with coupling agents to create dye molecules that fix the color to the hair fiber. By contrast, a</p>

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<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
	<p>colorant or pigment that is not intended to permanently, demi-permanently or semi-permanently change the color or tone of hair, e.g., the colorant or pigment easily washes out, in this fashion is not a “hair coloring agent.”</p> <p>Bond Ultim8 Step 1 does not contain any “hair coloring agents,” and its instructions for use do not include such agents for bleaching treatments, as shown above. The ingredient lists for Bond Ultim8 Step 1 includes three generic product coloring chemicals (CI 19140/Yellow 5, CI 14700/Red 4, CI 42090/Blue 1):</p> <p>1200591-INGREDIENTS: AQUA / WATER, MALEIC ACID, ETHANOLAMINE, CITRIC ACID, CI 19140 / YELLOW 5, CI 14700 / RED 4, CI 42090 / BLUE 1 (D191397/2)</p> <p>(Ex. 2035, 1 excerpt, with emphasis added.)</p> <p>The lack of binding activity between these generic coloring chemicals used in Bond</p>

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<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
	<p>Ultim8 Step 1 and hair fiber makes them a good choice for modifying the appearance of a product in a bottle. Internal testing by Petitioner establishes that these dyes color the product only and do not actually color hair. (Ex. 2038, 3; Ex. 2039, 3).</p> <p>For all of these reasons, the mixture of Bond Ultim8 Step 1 and the bleaching formulation does not contain a hair coloring agent.</p>

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Redken pH-Bonder #1

230. If the preamble of '419 patent claim 1 is considered a claim limitation, the use of Redken pH-Bonder #1 according to the instructions provides a method for bleaching or lightening the color of hair. (Ex. 2041, 1 “promotes bond integrity” and “helps protect bonds to keep fibers strong from within during technical services” such as lightening).

231. Use of pH-Bonder #1 as instructed involves mixing a maleic acid active agent formulation with a bleaching formulation. The pH-Bonder #1 label identifies maleic acid as an ingredient. (*Id.*). The instructions for use direct the user to mix the #1 additive with a two-part bleaching formulation having peroxide and bleaching powder. (Ex. 2041, 1; Ex. 2042, 4).

232. Use of pH-Bonder #1 as instructed also involves applying the additive/bleaching formulation mixture to hair. Petitioner expressly instructs a user to “[a]pply lightener ... as usual” after mixing the maleic acid active agent formulation with the bleaching formulation. (Ex. 2041, 1; Ex. 2042, 4). The next step in the instructions calls for rinsing of the lightener from the hair, which confirms that the mixture is applied to the hair. (Ex. 2041, 1; Ex. 2042, 4).

233. pH-Bonder #1 has maleic acid at a concentration of about 10.6 wt. %. (Ex. 2037, 1). Using these test results and/or data, together with the instructions

that come with the pH-Bonder #1, it is possible to determine the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair.

234. The pH-Bonder #1 package instructions provide a “mixing table” that instructs the amounts of bleach, developer and pH-Bonder #1 to use during hair bleaching. For convenience, I have added the red labels to the image below identifying the component being described in that column:

POWDER LIGHTENER		
		
15-30g	15-90ml	4ml
30-60g	30-120ml	8ml
<i>bleach</i>	<i>developer</i>	<i>additive</i>

(Ex. 2042, 5).

235. The amounts of developer and Step 1 additive are given as a volume. To convert these into a mass, I assumed that the density of each was approximately

that of water (1 g/ml). Water is expected to be the major component of these compositions, and I have seen nothing in the ingredient lists, safety data sheets, or any other information source to suggest otherwise.

236. Thus, the total mass of ingredients in the top row was from a minimum of 34 grams (i.e., 15+15+4) to a maximum of 124 grams (i.e., 30+90+4). Using the NMR testing results, I calculated the weight of maleic acid present in 4 ml of Step 1 additive (0.4 grams). From this I calculated the weight percentage of maleic acid present in that mixture to be between 0.3–1.2 wt. %.

237. Following the same process, I determined that the weight percentage of maleic acid present in that mixture in the bottom row to be between 0.4–1.2 wt. %.

238. Thus, my analysis demonstrates that when pH-Bonder #1 is used according to the instructions the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair is between about 0.1% by weight and about 50% by weight, as claimed in this element.

239. pH-Bonder #1 includes three generic product-coloring chemicals (CI 19140/Yellow 5, CI 14700/Red 4, CI 42090/Blue 1). (Ex. 2041, 1). The core question is whether pH-Bonder #1 actually uses CI 19140, CI 14700 and CI 42090 in the bleaching mixture applied to the hair in such a way that they actually color

hair. In my opinion, when used as instructed, the mixture applied to the hair does not contain a hair-coloring agent.

240. CI 19140, CI 14700 and CI 42090 are common dyes for coloring products, but I am not aware of any hair dye product which uses these chemicals to actually impart color to hair in the low concentrations that I believe these chemical are used in the pH-Bonder #1. Moreover, all three of these dyes are used in various shampoo and conditioner products marketed by Petitioner, which are neither intended to color hair, nor labeled as coloring hair, as, demonstrated below.

241. Redken Curvaceous conditioner contains both CI 19140/Yellow 5 and CI 42090/Blue 1. (Ex. 2031, 2). Matrix Biolage Advanced shampoo also contains CI 19140/ Yellow 5. (Ex. 2032, 2). Pureology (a brand of Petitioner) Strength Cure conditioner contains CI 14700/Red 4. (Ex. 2033, 2). The fact that Petitioner uses the three dyes at issue in its shampoo and conditioner products, and does not label those shampoos and conditioners as products containing hair colorants, further demonstrates that Petitioner does not genuinely consider these dyes to be hair colorants.

242. I also have considered an internal report of Petitioner, which was dated 20 July 2016 and assessed “Impact of the Dyes Used in Bonding Additive P4.” (Ex. 2038). This document identifies the formulation of pH-Bonder #1 as

“1200591.” (*Id.*, 2; see also Ex. 2041, 1; Ex. 2039, 2; Ex. 2040, p. 12 at Tr. 46, lines 5–16).

243. Two additional formulations were tested. One was a version of L'Oréal Professional Smartbond Step 1 without any dyes (Formula 1112405B) and one was a version of Smartbond Step 1 with four times the normal dye load (Formula 1112405C). The concentrations of the dyes in pH-Bonder #1 are reported as 0.0001% CI 19140/Yellow 5, 0.000011 of CI 42090/Blue 1, and 0.00008 of CI 14700/Red 4. (Ex. 2038, 2).

244. Each product was tested with both oxidative hair color (Majirel clear) and a bleaching product having both bleach powder and 30-volume developer. (*Id.*). The Results and Conclusion sections report that all of Petitioner's maleic-acid bleaching additive products do not color hair:

RESULTS:

In all conditions, we did not notice any coloration of the hair (all type of hair – type of product – additives)

* * *

L*a*b* results : no significant differences between 1112405, 1112405B and 1112405C on all types of fibers.

CONCLUSION:

Dyes added into the Bonding additive, at the very low concentration introduced, have the only properties to color the bulk of the additive but none properties to color hair.

(*Id.* at 3).

245. Another internal report produced by Petitioner, dated July 21, 2016, assesses whether the dyes added in pH-Bonder #1 “will only color the bulk of the additive and not the hair.” (Ex. 2039, 2). In this report, the pH-Bonder #1 formulation is compared with a similar formulation that entirely omits the three dyes. (*Id.*; Ex. 2040, pp. 22–24 at Tr. 126, line 20–Tr. 128, line 8). Yet again, no coloration of the hair was detected. (Ex. 2039, 3). The conclusion is that the dyes in pH-Bonder #1 only “color the bulk of the additive” and do not have the “properties to color hair.” (*Id.*).

246. From this, I understand that Petitioner deliberately formulated the pH-Bonder #1 product in order to avoid coloring hair.

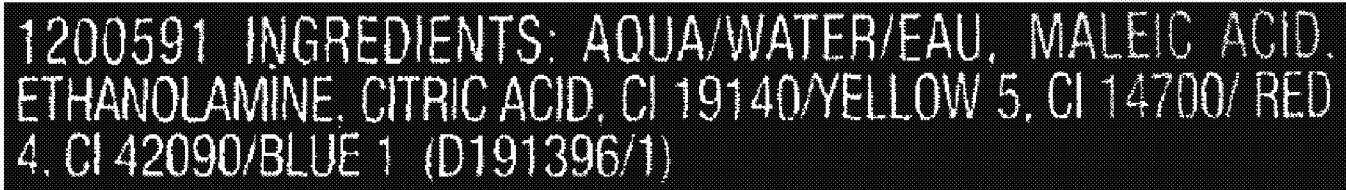
247. In my opinion, the pH-Bonder #1 product does not contain a hair coloring agent. When these products are used as Petitioner instructs for bleaching hair, the bleaching mixture does not contain a hair coloring agent and no product colorant present would be expected to act as a hair coloring agent.

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248. The following Table 2 summarizes where each element of claim 1 of the '419 patent is practiced by the use of Petitioner's pH-Bonder #1 product as instructed:

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TABLE 2

<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1)</i>
1. A method for bleaching hair comprising:	To the extent that the preamble is considered a claim limitation, the use of pH-Bonder #1 according to the instructions provides a method for bleaching or lightening the color of hair.
(a) mixing a formulation comprising an active agent with a bleaching formulation,	<p>The label on pH-Bonder #1 lists the ingredients that it contains. The second ingredient is identified as “maleic acid,” which is the active agent:</p>  <p>(Ex. 2041, 1). Thus pH-Bonder #1 is a formulation comprising an active agent.</p> <p>The instructions provided on the bottle of pH-Bonder #1 direct the user to mix pH-Bonder #1,</p>

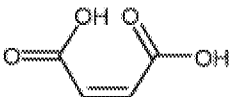
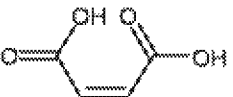
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Claim Language	<i>Infringement by Use of Redken pH-Bonder #1)</i>
	<p>including its active agent maleic acid, with a two-part bleaching formulation:</p> <div> <p>pH-Bonder #1 helps protect bonds to keep fibers strong from within during technical services. DIRECTIONS: Wearing suitable gloves, mix your lightener or color as usual. IMPORTANT: Always mix developer and lightener/color before adding pH-Bonder #1. For lightener, add 4 ml of pH-Bonder #1 for every 15-30 grams (1/2-1 oz) of powder or 8 ml of pH-Bonder #1 for every 30-60 grams (1-2 oz) of powder used in mixture. For color, add 4 ml of pH-Bonder #1 for every 60 grams (2 oz) of colorant used in mixture. Apply lightener or color as usual. Rinse lightener or color from hair - do not shampoo. Dry thoroughly with a towel.</p> </div> <p>[Highlighted text reproduced for clarity:]</p> <p>“Wearing suitable gloves, mix your lightener... as usual. IMPORTANT: Always mix developer, and lightener... before adding pH-Bonder #1. For lightener, add 4ml of pH-Bonder #1 for every 15–30 grams (½–1 oz) of powder or 8ml of pH-Bonder #1 for every 30–60 grams (1–2 oz) of powder used in mixture.... Apply lightener ... as usual.”</p> <p>(Ex. 2041, 1 excerpt, with emphasis added.)</p> <p>The package instructions (included in the box when pH-Bonder #1 is sold) further describe the</p>

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Claim Language	Infringement by Use of Redken pH-Bonder #1)
	<p>bleaching formulation:</p> 

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<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1)</i>
	<p>(Ex. 2042, 4 excerpt, with emphasis added.) The words “powder” and “lightener” refer to bleaching powder. The bleaching formulation is therefore the combination of bleach and developer.</p> <p>For the foregoing reasons, use of pH-Bonder #1 as instructed involves mixing a formulation comprising an active agent with a bleaching formulation.</p>
<p>wherein the active agent has the formula:</p>  <p>or salts thereof; and</p>	<p>The label on pH-Bonder #1 (Ex. 2041, 1) lists the ingredients that it contains, and the second ingredient is identified as “maleic acid,” which is the active agent. The chemical structural formula of maleic acid is depicted below:</p>  <p>pH-Bonder #1 therefore has an active agent with the formula shown in the claim.</p>

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<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1)</i>
<p>(b) applying the mixture to the hair;</p>	<p>As documented above, the instructions provided on bottle (Ex. 2041, 1), and those that are included in the packaging provided with pH-Bonder #1 (Ex. 2042, 4), direct the user to “[a]pply lightener ... as usual” after mixing the additive into the bleaching formation. The mixture is being applied to the hair.</p> <p>To the extent this is not self-evident; the label instructions direct the user to “Rinse lightener ... from hair” (which confirms that the mixture is applied to the hair):</p> <div> <p>pH-Bonder #1 helps protect bonds to keep fibers strong from within during technical services. DIRECTIONS: Wearing suitable gloves, mix your lightener or color as usual. IMPORTANT: Always mix developer and lightener/color before adding pH-Bonder #1. For lightener, add 4 ml of pH-Bonder #1 for every 15-30 grams (1/2-1 oz) of powder or 8 ml of pH-Bonder #1 for every 30-60 grams (1-2 oz) of powder used in mixture. For color, add 4 ml of pH-Bonder #1 for every 60 grams (2 oz) of colorant used in mixture. Apply lightener or color as usual. Rinse lightener or color from hair - do not shampoo. Dry thoroughly with a towel.</p> </div> <p>(Ex. 2041, 1 excerpt, with emphasis added.)</p> <p>Therefore, the use of pH-Bonder #1 as instructed involves applying the additive/bleaching</p>

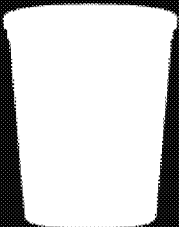
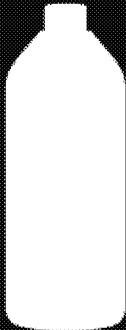
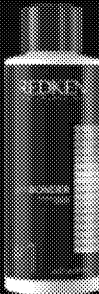
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<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1)</i>
	formulation mixture to hair.
wherein the active agent in the mixture is at a concentration ranging from about 0.1% by weight to about 50% by weight; and	As discussed above, pH-Bonder #1 contains the active agent maleic acid. At my direction, pH-Bonder #1 was tested at an independent laboratory, ANALYZE INC., which determined that maleic acid was present in the pH-Bonder #1 bottle at a concentration of about 10.6 ±0.1 % by weight:

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Claim Language	Infringement by Use of Redken pH-Bonder #1)														
	<p>Quantitative ¹H NMR spectroscopy was used to determine the concentrations of both the maleic acid (MA) and monoethanolamine (MEA) using calcium formate as the internal standard.</p> <p>The average values of the triplicate NMR assay results are listed in Summary Table I</p> <p style="text-align: center;">Summary Table I – MA and MEA Assay Results</p> <table><tr><th rowspan="2">Sample ID</th><th>[MA]</th><th>[MEA]</th></tr><tr><th>Wt-%</th><th>Wt-%</th></tr><tr><td>Sample 1 - Redken pH Bonder Step 1</td><td>10.6</td><td>5.5</td></tr><tr><td>Sample 2 - Matrix Bond Ultim 8 Step 1</td><td>10.5</td><td>5.4</td></tr><tr><td>Sample 3 - L'Oreal Smartbond Step 1</td><td>10.2</td><td>5.4</td></tr></table> <p>The precision of the analyses is good with all average values of the triplicate analyses having a standard deviation of less than <u>± 0.1</u>.</p> <p>(Ex. 2037, with emphasis added; note that ¹H NMR is the acronym for Proton Nuclear Magnetic Resonance Spectroscopy, where such spectroscopy services were performed for ANALYZE INC. by the independent laboratory Spectral Data Systems of Champaign, Illinois.)</p> <p>The pH-Bonder #1 Instructions (Ex. 2042, 5) contain a table that specifies the amounts of</p>	Sample ID	[MA]	[MEA]	Wt-%	Wt-%	Sample 1 - Redken pH Bonder Step 1	10.6	5.5	Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4	Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4
Sample ID	[MA]		[MEA]												
	Wt-%	Wt-%													
Sample 1 - Redken pH Bonder Step 1	10.6	5.5													
Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4													
Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4													

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Claim Language	Infringement by Use of Redken pH-Bonder #1)
	<p>lighter or bleaching powder, developer and Bond Ultim8 Step 1, respectively, to use when bleaching:</p> <div><p>POWDER LIGHTENER</p><div><div><div>15-30g 30-60g</div></div><div><div>15-90ml 30-120ml</div></div><div><div>4ml 8ml</div></div></div></div>

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<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1)</i>																																																						
	<p>When pH-Bonder #1 is mixed with bleach and developer per the package instructions, the concentration of active agent in the mixture varies from 0.3% by weight to 1.2% by weight, as shown in the table below:</p> <table> <tr> <th>Bleach</th><th colspan="2">Developer</th><th colspan="2">Additive</th><th>Maleic acid</th><th>Total</th><th>Maleic acid</th></tr> <tr> <th>(g)</th><th>(ml)</th><th>(g)</th><th>(ml)</th><th>(g)</th><th>(g)</th><th>(g)</th><th>(wt%)</th></tr> <tr> <td>15</td><td>15</td><td>15</td><td>4</td><td>4</td><td>0.42</td><td>34.0</td><td>1.2%</td></tr> <tr> <td>15</td><td>90</td><td>90</td><td>4</td><td>4</td><td>0.42</td><td>109.0</td><td>0.4%</td></tr> <tr> <td>30</td><td>15</td><td>15</td><td>4</td><td>4</td><td>0.42</td><td>49.0</td><td>0.9%</td></tr> <tr> <td>30</td><td>90</td><td>90</td><td>4</td><td>4</td><td>0.42</td><td>124.0</td><td>0.3%</td></tr> </table>							Bleach	Developer		Additive		Maleic acid	Total	Maleic acid	(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(wt%)	15	15	15	4	4	0.42	34.0	1.2%	15	90	90	4	4	0.42	109.0	0.4%	30	15	15	4	4	0.42	49.0	0.9%	30	90	90	4	4	0.42	124.0	0.3%
Bleach	Developer		Additive		Maleic acid	Total	Maleic acid																																																
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	Bleach	Developer		Additive		Maleic acid	Total	Maleic acid
	(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(wt%)
	30	30	30	8	8	0.85	68.0	1.2%
	30	120	120	8	8	0.85	158.0	0.5%
	60	30	30	8	8	0.85	98.0	0.9%
	60	120	120	8	8	0.85	188.0	0.4%
	Each of these values is within the claimed range from about 0.1% by weight to about 50% by weight.							

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<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1)</i>
<p>wherein the mixture does not contain a hair coloring agent.</p>	<p>The claimed mixture is the combination of pH-Bonder #1 with the bleaching formulation. I reviewed the labels of pH-Bonder #1, as well as the labels of the Redken-branded bleaching powder and developer, to determine what ingredients they contain. From this review, I have confirmed that they do not contain hair coloring agents.</p> <p>Hair coloring agent” has a well-understood plain and ordinary meaning that is set forth in the file history of the ’419 patent, namely, “a colorant or pigment that is customarily used in hair care products, which changes the color or tone of the hair it is applied to based on visual inspection.” (Ex. 1010, 7). For example, a colorant or pigment that is intended to, for example, permanently or demi-permanently change the color or tone of hair is typically diffused into the hair fibers themselves during hair coloring, and then oxidized by hydrogen peroxide into active intermediates. (See also Ex. 1001, Col. 16, line 43 – Col. 17, line 14 and Col. 20, lines 30–36).</p>

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<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1)</i>
	<p>These intermediates then react with coupling agents (such as resorcinol) to create dye molecules that fix the color to the hair fiber. By contrast, a colorant or pigment that is not intended to permanently, demi-permanently or semi-permanently change the color or tone of hair, e.g., the colorant or pigment easily washes out, in this fashion is not a “hair coloring agent.”</p> <p>pH-Bonder #1 does not contain any “hair coloring agents,” and its instructions for use do not include such agents for bleaching treatments, as shown above. While the ingredient lists for pH-Bonder #1 includes three generic product coloring chemicals (CI 19140/Yellow 5, CI 14700/Red 4, CI 42090/Blue 1):</p> <div style="background-color: black; color: white; padding: 10px;"> <p>1200591 INGREDIENTS: AQUA/WATER/EAU, MALEIC ACID, ETHANOLAMINE, CITRIC ACID, CI 19140/YELLOW 5, CI 14700/ RED 4, CI 42090/BLUE 1 (D191396/1)</p> </div>

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<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1)</i>
	<p>(Ex. 2041, 1 excerpt, with emphasis added.)</p> <p>The lack of binding activity between these generic coloring chemicals used in pH-Bonder #1 and hair fiber makes them a good choice for modifying the appearance of a product in a bottle.</p> <p>Internal testing by Petitioner establishes that these dyes color the product only and do not actually color the hair. (Ex. 2038, 3; Ex. 2039, 2).</p> <p>For all of these reasons, the mixture of pH-Bonder #1 and the bleaching formulation does not contain a hair coloring agent.</p>

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L'Oréal Professionnel Smartbond Step 1

249. If the preamble of '419 patent claim 1 is considered a claim limitation, the use of L'Oréal Professionnel Smartbond Step 1 according to the instructions provides a method for bleaching or lightening the color of hair. (Ex. 2043, 1).

250. Use of Smartbond Step 1 as instructed involves mixing a maleic acid active agent formulation with a bleaching formulation. The Smartbond Step 1 label identifies maleic acid as an ingredient. (*Id.*). The instructions for use direct the user to mix the Smartbond Step 1 additive with a two-part bleaching formulation having peroxide and bleaching powder. (*Id.*; Ex. 2044, 1).

251. Use of Smartbond Step 1 as instructed also involves applying the additive/bleaching formulation mixture to hair. Petitioner expressly instructs a user to apply the lightener “as usual according to the instructions” after mixing the maleic acid active agent formulation with the bleaching formulation. (Ex. 2043, 1; Ex. 2044, 1). The next step in the instructions calls for “rins[ing] off” of the final mixture of the bleaching formulation and the Smartbond Step 1 additive from the hair, which confirms that the mixture is applied to the hair. (Ex. 2044, 1; Ex. 2043, 1).

252. Smartbond Step 1 has maleic acid at a concentration of about 10.2 wt. %. (Ex. 2037, 1). Using these test results and/or data, together with the instructions that come with the Smartbond Step 1, it is possible to determine the

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concentration of maleic acid (weight percentage) in the mixture that is applied to the hair.

253. The package instructions that accompany Smartbond Step 1(Ex. 2044, 1) include a table which species the amounts of lightener powder, developer, and Smartbond Step 1 additive to use when bleaching hair. The relevant portion of the table is reproduced as follows:

Lightener Powder (grams)	Developer	Smartbond Step 1 Additive (ml)
15–30 g	1:1 or 1:1.5 or 1:2	4 ml
30–60 g		8 ml

254. The “Developer” column provides mixing ratios describing the relative amount of developer used with the lighter. In a 1:1 mixing ratio, 15 grams of lightener powder are used with 15 milliliters (ml) of developer. In a 1:2 mixing ratio, 15 grams of lightener powder are used with 30 milliliters (ml) of developer. My conclusions would be the same for any of these ratios.

255. The amounts of developer and Smartbond Step 1 additive are given as a volume. To convert these into a mass, I assumed that the density of each was

approximately that of water (1 g/ml). Water is expected to be the major component of these compositions, and I have seen nothing in the ingredient lists, material safety data sheets, or any other information source to suggest otherwise.

256. Thus, the total mass of ingredients in the top row was from a minimum of 34 grams (i.e., 15+15+4) to a maximum of 94 grams (i.e., 30+60+4). Using the NMR testing results, I calculated the weight of maleic acid present in 4 ml of Step 1 additive (0.4 grams). From this, I calculated the weight percentage of maleic acid present in that mixture to be between 0.4–1.2 wt. % for the top and bottom rows.

257. Thus, my analysis demonstrates that when Smartbond Step 1 is used according to the instructions the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair is between about 0.1% by weight and about 50% by weight, as claimed in this element.

258. Smartbond Step 1 includes three generic product-coloring chemicals (CI 19140/Yellow 5, CI 14700/Red 4, CI 42090/Blue 1). (Ex. 2043, 1). The core question is whether Smartbond Step 1 actually uses CI 19140, CI 14700 and CI 42090 in the bleaching mixture applied to the hair in such a way that they actually color hair. In my opinion, when used as instructed, the mixture applied to the hair does not contain a hair-coloring agent.

259. CI 19140, CI 14700 and CI 42090 are common dyes for coloring products, but I am not aware of any hair dye product, which uses these chemicals to actually impart color to hair in the low concentrations that I believe these chemical are used in the Smartbond Step 1. Moreover, all three of these dyes are used in various shampoo and conditioner products marketed by Petitioner, which are neither intended to color hair, nor labeled as coloring hair, as, demonstrated below.

260. Redken Curvaceous conditioner contains both CI 19140/Yellow 5 and CI 42090/Blue 1. (Ex. 2031, 2). Matrix Biolage Advanced shampoo also contains CI 19140/ Yellow 5. (Ex. 2032, 2). Pureology (a brand of Petitioner) Strength Cure conditioner contains CI 14700/Red 4. (Ex. 2033, 2). The fact that Petitioner uses the three dyes at issue in its shampoo and conditioner products, and does not label those shampoos and conditioners as products containing hair colorants, further demonstrates that Petitioner does not genuinely consider these dyes to be hair colorants.

261. I have considered an internal report of Petitioner, which was dated 20 July 2016 and assessed “Impact of the Dyes Used in Bonding Additive P4.” (Ex. 2038). This document identifies the formulation of Smartbond Step 1 as “1112405. “(*Id.*, 2; see also Ex. 2043, 1; Ex. 2039, 2; Ex. 2040, pp. 10–11 at Tr. 44, line 22–Tr. 45, line 19).

262. Two additional formulations were tested. One was a version of Smartbond Step 1 without any dyes (Formula 1112405B) and one was a version of Smartbond Step 1 with four times the normal dye load (Formula 1112405C). The concentrations of the dyes in Smartbond Step 1 are reported as 0.0001% CI 19140/Yellow 5, 0.000011 of CI 42090/Blue 1, and 0.00008 of CI 14700/Red 4. (Ex. 2038, 2).

263. Each product was tested with both oxidative hair color (Majirel clear) and a bleaching product having both bleach powder and 30-volume developer. (*Id.*). The Results and Conclusion sections report that all of Petitioner's maleic-acid bleaching additive products do not color hair:

RESULTS:

In all conditions, we did not notice any coloration of the hair (all type of hair – type of product – additives)

* * *

L*a*b* results : no significant differences between 1112405, 1112405B and 1112405C on all types of fibers.

CONCLUSION:

Dyes added into the Bonding additive, at the very low concentration introduced, have the only properties to

color the bulk of the additive but none properties to color hair.

(*Id.* at 3).

264. Another internal report produced by Petitioner, dated July 21, 2016, assesses whether the dyes added in Smartbond Step 1 “will only color the bulk of the additive and not the hair.” (Ex. 2039, 2). In this report, the Smartbond Step 1 formulation is compared with a similar formulation that entirely omits the three dyes. (*Id.*; Ex. 2040, pp. 22–24 at Tr. 126, line 20–Tr. 128, line 8). Yet again, no coloration of the hair was detected. (Ex. 2039, 3). The conclusion is that the dyes in Smartbond Step 1 only “color the bulk of the additive” and do not have the “properties to color hair.” (*Id.*).

265. From this, I understand that Petitioner deliberately formulated the Bond Ultim8 Step 1 product in order to avoid coloring hair.

266. In my opinion, the Smartbond Step 1 product does not contain a hair coloring agent. When these products are used as Petitioner instructs for bleaching hair, the bleaching mixture does not contain a hair coloring agent and no product colorant present would be expected to act as a hair coloring agent.

267. The following Table 3 summarizes where each element of claim 1 of the '419 patent is practiced by the use of Petitioner's Smartbond Step 1 product as instructed:

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TABLE 3

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Smartbond Step 1</i>
1. A method for bleaching hair comprising:	To the extent that the preamble is considered a claim limitation, the use of Smartbond Step 1 according to the instructions provides a method for bleaching or lightening the color of hair.
(a) mixing a formulation comprising an active agent with a bleaching formulation,	<p>The label on Smartbond Step 1 lists the ingredients that it contains. The second ingredient is identified as “maleic acid,” which is the active agent:</p> <p>1112405 - INGREDIENTS: AQUA / WATER / EAU • MALEIC ACID • ETHANOLAMINE • CI 19140 / YELLOW 5 • CI 14700 / RED 4 • CI 42090 / BLUE 1. D193050/1.</p> <p>(Ex. 2043, 1 excerpt, with emphasis added.) Thus Smartbond Step 1 is a formulation comprising an active agent.</p>

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<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Smartbond Step 1</i>
	<p>The instructions provided on the bottle of Smartbond Step 1 direct the user to mix Smartbond Step 1, including its active agent maleic acid, with a two-part bleaching formulation:</p> <p>STEP 1 USA - BOND STRENGTHENING SYSTEM ADDITIVE. Suitable for all hair types.</p> <p>DIRECTIONS: To make dosage easier, a graduated dispenser is included in this kit. Use this dispenser for appropriate dosage. Wash the dispenser thoroughly after every use. Always store the bottle in the upright position.</p> <p>1. Mix your lightener or color as usual. Important: Always mix developer and lightener/color before adding Smartbond Step 1.</p> <p>2. For lightener product, add 4ml (.14 oz) of Step 1 additive for every 15-30 g (1/2-1 oz) or 8ml of Step 1 additive for every 30-60 g (1-2 oz) of lightening product used in the final mixture.</p>

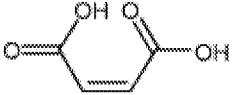
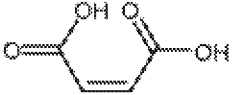
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<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Smartbond Step 1</i>
	<p>For color product, add 4 ml (.14 oz) of Step 1 additive per tube of colorant cream used in the final mixture.</p> <p>3. Apply lightener or color mixture as usual. Rinse thoroughly lightener or color mixture from hair.</p> <p>4. Do not shampoo. Dry thoroughly with a towel.</p> <p>5. Follow with Step 2 pre shampoo.</p> <p>(Ex. 2043, 1 excerpt, with emphasis added.)</p> <p>The package instructions (included in the box when the Smartbond Step 1 is sold) further describe the bleaching formulation:</p>

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Claim Language	Infringement by Use of L'Oréal Smartbond Step 1
	<div>#1</div> <div> <div>MIX</div> </div> <div> <p>MIX YOUR LIGHTENER AS USUAL. IMPORTANT: ALWAYS MIX DEVELOPER AND LIGHTENER BEFORE ADDING SMARTBOND STEP 1. ADD 4 ML (.14 OZ) OF STEP 1 ADDITIVE FOR EVERY 15-30 G (1/2-1 OZ) OR 8 ML OF STEP 1 ADDITIVE FOR EVERY 30-60 G (1-2 OZ) OF LIGHTENING PRODUCT USED IN THE FINAL MIXTURE.</p> </div> <div>#2</div> <div> <div>APPLICATION</div> </div> <div> <p>APPLY AS USUAL ACCORDING TO INSTRUCTIONS. RINSE OFF. DO NOT SHAMPOO. TOWEL DRY HAIR WELL TO REMOVE EXCESS MOISTURE.</p> </div> <div> <p>Ex. 2044, 1, with emphasis added.) The word “lightener” refers to bleaching powder. The bleaching formulation is therefore the combination of bleach and developer.</p> </div> <div> <p>For the foregoing reasons, use of Smartbond Step 1 as instructed involves mixing a formulation comprising an active agent with a bleaching formulation.</p> </div>

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<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Smartbond Step 1</i>
<p>wherein the active agent has the formula:</p>  <p>or salts thereof; and</p>	<p>The label on Smartbond Step 1 (Ex. 2043, 1) lists the ingredients that it contains. The second ingredient is identified as “maleic acid,” which is the active agent. The chemical structural formula of maleic acid is depicted below:</p>  <p>Smartbond Step 1 therefore has an active agent with the formula shown in the claim.</p>
<p>(b) applying the mixture to the hair;</p>	<p>As documented above, the instructions provided on the bottle (Ex. 2043, 1) and those that are included in the packaging provided with Smartbond Step 1 (Ex. 2044, 1) direct the user to “[a]pply lightener ... as usual” after mixing the additive into the bleaching formation. The mixture is being applied to the hair.</p>

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<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Smartbond Step 1</i>
	<p>To the extent this is not self-evident; the label instructions confirms that the mixture is applied to the hair because they direct the user to “Rinse thoroughly lightener ... from hair”:</p> <p>3. Apply lightener or color mixture as usual. Rinse thoroughly lightener or color mixture from hair.</p> <p>(Ex. 2043, 1, with emphasis added.) .</p> <p>Therefore, the use of Smartbond Step 1 as instructed involves applying the additive/bleaching formulation mixture to hair.</p>
wherein the active agent in the mixture is at a concentration	<p>As discussed above, Smartbond Step 1 contains the active agent maleic acid. At my direction, Smartbond Step 1 was tested at an independent laboratory, ANALYZE INC., which determined that maleic acid was present in Smartbond Step 1 at a concentration of about 10.2 ±0.1 % by weight.</p>

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Claim Language	Infringement by Use of L'Oréal Smartbond Step 1												
ranging from about 0.1% by weight to about 50% by weight; and	<p>Quantitative ¹H NMR spectroscopy was used to determine the concentrations of both the maleic acid (MA) and monoethanolamine (MEA) using calcium formate as the internal standard.</p> <p>The average values of the triplicate NMR assay results are listed in Summary Table I</p> <p>Summary Table I – MA and MEA Assay Results</p> <table><tr><th>Sample ID</th><th>[MA] Wt-%</th><th>[MEA] Wt-%</th></tr><tr><td>Sample 1 - Redken pH Bonder Step 1</td><td>10.6</td><td>5.5</td></tr><tr><td>Sample 2 - Matrix Bond Ultim 8 Step 1</td><td>10.5</td><td>5.4</td></tr><tr><td>Sample 3 - L'Oreal Smartbond Step 1</td><td>10.2</td><td>5.4</td></tr></table> <p>The precision of the analyses is good with all average values of the triplicate analyses having a standard deviation of less than ± 0.1.</p> <p>(Ex. 2037, 1, with emphasis added; note that ¹H NMR is the acronym for Proton Nuclear Magnetic Resonance Spectroscopy, where such spectroscopy services were performed for ANALYZE INC. by the independent laboratory Spectral Data Systems of Champaign, Illinois.)</p>	Sample ID	[MA] Wt-%	[MEA] Wt-%	Sample 1 - Redken pH Bonder Step 1	10.6	5.5	Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4	Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4
Sample ID	[MA] Wt-%	[MEA] Wt-%											
Sample 1 - Redken pH Bonder Step 1	10.6	5.5											
Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4											
Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4											

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Claim Language	Infringement by Use of L'Oréal Smartbond Step 1																				
	<p>The Smartbond Step 1 Instructions (Ex. 2044, 1) contain a table that specifies the amounts of lighter or bleaching powder, developer and Bond Ultim8 Step 1, respectively, to use when bleaching:</p> <table><tr><th>LIGHTENER PRODUCTS</th><th>QUANTITY OF PRODUCT</th><th>DEVELOPER</th><th>STEP 1</th></tr><tr><td rowspan="2">Lightening Oil</td><td>30 ml (1.01 oz)</td><td rowspan="2">1:2</td><td>2 ml (.07 oz)</td></tr><tr><td>60 ml (2.03 oz)</td><td>4 ml (.14 oz)</td></tr><tr><td rowspan="2">Powder / Pastes</td><td>15-30 g</td><td rowspan="2">1:1 or 1:1.5 or 1:2</td><td>4 ml (.14 oz)</td></tr><tr><td>30-60 g</td><td>8 ml (.28 oz)</td></tr><tr><td>Blond Studio Majimèches</td><td>1 sachet</td><td>1:1:1</td><td>4 ml (.14 oz)</td></tr></table> <p>When Smartbond Step 1 is mixed with bleach and developer per the package instructions, the concentration of active agent in the mixture varies from 0.3% by weight to 1.2% by weight:</p>	LIGHTENER PRODUCTS	QUANTITY OF PRODUCT	DEVELOPER	STEP 1	Lightening Oil	30 ml (1.01 oz)	1:2	2 ml (.07 oz)	60 ml (2.03 oz)	4 ml (.14 oz)	Powder / Pastes	15-30 g	1:1 or 1:1.5 or 1:2	4 ml (.14 oz)	30-60 g	8 ml (.28 oz)	Blond Studio Majimèches	1 sachet	1:1:1	4 ml (.14 oz)
LIGHTENER PRODUCTS	QUANTITY OF PRODUCT	DEVELOPER	STEP 1																		
Lightening Oil	30 ml (1.01 oz)	1:2	2 ml (.07 oz)																		
	60 ml (2.03 oz)		4 ml (.14 oz)																		
Powder / Pastes	15-30 g	1:1 or 1:1.5 or 1:2	4 ml (.14 oz)																		
	30-60 g		8 ml (.28 oz)																		
Blond Studio Majimèches	1 sachet	1:1:1	4 ml (.14 oz)																		

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Claim Language	Infringement by Use of L'Oréal Smartbond Step 1								
		Bleach	Developer		Additive		Maleic acid	Total	Maleic acid
		(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(wt%)
		15	15	15	4	4	0.41	34	1.2%
		15	22.5	22.5	4	4	0.41	41.5	1.0%
		15	30	30	4	4	0.41	49	0.8%
		30	30	30	4	4	0.41	64	0.6%
		30	45	45	4	4	0.41	79	0.5%
		30	60	60	4	4	0.41	94	0.4%

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Claim Language	Infringement by Use of L'Oréal Smartbond Step 1								
		Bleach	Developer		Additive		Maleic acid	Total	Maleic acid
		(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(wt%)
		30	30	30	8	8	0.82	68	1.2%
		30	45	45	8	8	0.82	83	1.0%
		30	60	60	8	8	0.82	98	0.8%
		60	60	60	8	8	0.82	128	0.6%
		60	90	90	8	8	0.82	158	0.5%
		60	120	120	8	8	0.82	188	0.4%

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<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Smartbond Step 1</i>
	Each of these values is within the claimed range from about 0.1% by weight to about 50% by weight.
wherein the mixture does not contain a hair coloring agent.	<p>The claimed mixture is the combination of Smartbond Step 1 with the bleaching formulation. I reviewed the label of Smartbond Step 1, as well as the labels of the L'Oréal-branded bleaching powder and developer, to determine what ingredients they contain. From this I have confirmed that they do not contain hair coloring agents.</p> <p>“Hair coloring agent” has a well-understood plain and ordinary meaning that is set forth in the file history of the '419 patent, namely, “a colorant or pigment that is customarily used in hair care products, which changes the color or tone of the hair it is applied to based on visual inspection.” (Ex. 1010, 7). For example, a colorant or pigment that is intended to, for example, permanently or demi-permanently change the color or tone of hair is typically</p>

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<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Smartbond Step 1</i>
	<p>diffused into the hair fibers themselves during hair coloring, and then oxidized by hydrogen peroxide into active intermediates. (See also Ex. 1001, Col. 16, line 43 – Col. 17, line 14 and Col. 20, lines 30–36). These intermediates then react with coupling agents to create dye molecules that fix the color to the hair fiber. By contrast, a colorant or pigment that is not intended to permanently, demi-permanently or semi-permanently change the color or tone of hair, e.g., the colorant or pigment easily washes out, in this fashion is not a “hair coloring agent.”</p> <p>Smartbond Step 1 does not contain any “hair coloring agents,” and its instructions for use do not include such agents for bleaching treatments, as shown above. The ingredient lists for Smartbond Step 1 includes three generic product coloring chemicals (CI 19140/Yellow 5, CI 14700/Red 4, CI 42090/Blue 1):</p>

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<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Smartbond Step 1</i>
	<p>1112405 - INGREDIENTS: AQUA / WATER / EAU • MALEIC ACID • ETHANOLAMINE • CI 19140 / YELLOW 5 • CI 14700 / RED 4 • CI 42090 / BLUE 1. D153050/1.</p> <p>(Ex. 2043, 1 excerpt, with emphasis added.)</p> <p>The lack of binding activity between these generic coloring chemicals used Smartbond Step 1 and hair fiber makes them a good choice for modifying the appearance of a product in a bottle. Internal testing by Petitioner establishes that these dyes color the product only and do not actually color hair. (Ex. 2038, 3; Ex. 2039, 3).</p> <p>For all of these reasons, the mixture of Smartbond Step 1 and the bleaching formulation does not contain a hair coloring agent.</p>

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268. Therefore, it is my opinion that a POSITA would have recognized that Petitioner chose to copy the '419 patent invention, which is powerful objective evidence that the invention would not have been obvious in light of the cited references.

I declare, under the penalty of perjury, that the foregoing is true and correct.

Executed October 20, 2017, at Westerville, Ohio.



Edward T. Borish, Ph.D.

Exhibit E

PGR 2018–00025

Filed on behalf of Liqwd, Inc.
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Fax: 415.263.9200

**CONTAINS PROTECTIVE ORDER MATERIAL AND
HIGHLY CONFIDENTIAL-PROTECTIVE ORDER MATERIAL**

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

L'ORÉAL USA, INC.,
Petitioner,

v.

LIQWD, INC.,
Patent Owner.

Case PGR 2018–00025
Patent No. 9,668,954

DECLARATION OF EDWARD T. BORISH, PH.D.

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PATENT OWNER'S EXHIBIT LIST

Ex.	Description
2001	Claim Listing
2002	Pressly U.S. Patent No. 9,489,419
2003	<i>Liqwd v. L'Oréal</i> Fed. Cir. decision
2004	April 26, 2018 trial testimony in <i>Liqwd, Inc., et al. v. L'Oréal (UK) Ltd. et al.</i> , EWHC Patents Court, Claim No. HP-2016-000056
2005	Brown, Chapter 7 "Hair Coloring" from HAIR AND HAIR CARE (Johnson ed., 1997)
2006	Bolduc et al., "Hair Care Products: Waving, Straightening, Conditioning, and Coloring" Clin. Dermatol, 19:431-436 (2001)
2007	Robbins, Chapter 5 "Bleaching and Oxidation of Human Hair" from CHEMICAL AND PHYSICAL BEHAVIOR OF HUMAN HAIR (2012)
2008	Kitabata U.S. Patent Publ. 2002/0189034
2009	Robbins, Chapter 9 "The Physical Properties of Hair Fibers" from CHEMICAL AND PHYSICAL BEHAVIOR OF HUMAN HAIR (2012)
2010	Joico Bleach Powder label
2011	Clairol Bleach Powder label
2012	Onyebuagu U.S. Patent Publ. 2011/0038818
2013	March 31, 2016 Prel. Amdt. from '415 appl. file history
2014	January 24, 2017 Prel. Amdt. from '593 appl. file history
2015	RESERVED
2016	RESERVED
2017	August 25, 2016 3rd Party Submission regarding Singleton and Berkemer

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Ex.	Description
2018	September 14, 2016 3rd Party Submission regarding Singleton, Kitabata, and Berkemer
2019	December 12, 2017 Certificate of Correction of the '954 Patent
2020	September 26, 2016 Notice of Allowance of the '415 application
2021	Nandagiri Declaration from PGR2017-00012
2022	Robbins, Chapter 6 "Interactions of Shampoo and Conditioner Ingredients with Hair" from CHEMICAL AND PHYSICAL BEHAVIOR OF HUMAN HAIR (2012)
2023	RESERVED
2024	Matrix Light Master Label
2025	Redken Flash Lift Label
2026	Redken Up to 7 Label
2027	L'Oréal Quick Blue Label
2028	Evans et al, "A Statistical Analysis of Hair Breakage. II Repeated Grooming Experiments," J. Cosmet Sci., 41:439-456 (2010)
2029	RESERVED
2030	RESERVED
2031	Wickett Declaration from PGR2018-00023
2032	Curriculum Vitae of Edward T. Borish, Ph.D.
2033	Zviak/Milléquant Chapter 7: "Hair Bleaching" from THE SCIENCE OF HAIR CARE (Bouillon C, Wilkinson J, eds., 2d edn. 2005).
2034	Felthouse et al, "Maleic Anhydride, Maleic Acid, and Fumaric Acid" from the KIRK-OTHEMER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY (first published October 18, 2001)

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Ex.	Description
2035	"Final Report on the Safety Assessment of Maleic Acid," Int'l J. of Toxicology, 26 (Suppl. 2):125-130 (2007)
2036	Maleic Acid Safety Data Sheet Vertellus (2011)
2037	October 20, 2015 Interview Summary from '885 appl. file history
2038	October 29, 2015 Pressly declaration from '885 appl. file history
2039	December 28, 2015 Notice of Allowance from '885 appl. file history
2040	August 6, 2018 Amendment from '455 appl. file history.
2041	August 6, 2018 Pressly Declaration from '455 application file history
2042	August 10, 2017 Notice of Allowance from '455 application file history
2043	Excerpt from YOUTUBE video entitled "How Does SMARTBOND technology work?" By L'Oréal Professionnel, available at: https://youtu.be/LMyB5fiel1g?t=31 [last visited 10/18/2018]
2044	Redken pH-Bonder Technical Guide (August 2016)
2045	Matrix Bond Ultim8 Techniques Guide
2046	Declaration of Dean Christal, dated October 31, 2018
2047	Matrix Bond Ultim8 bottle instructions
2048	Matrix Bond Ultim8 package instructions
2049	Lab Report from Analyze, Inc.
2050	Redken pH-Bonder bottle instructions
2051	Redken pH-Bonder package instructions
2052	L'Oréal Professionnel Smartbond bottle instructions
2053	L'Oréal Professionnel Smartbond package instructions

Ex.	Description
2054	Pressly et al. U.S. Patent No. 10,076,478
2055	Wolfram, “The Reactivity of Human Hair. A Review” in HAIR RESEARCH (1981)
2056	Dubief et al., Chapter 4 “Hair Care Products” from THE SCIENCE OF HAIR CARE (Bouillon C, Wilkinson J, eds., 2d edn. 2005).
2057	Deposition Transcript of Arun Nandagiri dated October 6, 2017 from PGR2017–00012
2058	“Types of Professional Haircolor Services (Redken), https://www.redken.com/haircolor/types-of-professional-haircolor-services (obtained June 2, 2018)
2059	Corbett, “Hair Colorants: Chemistry and Toxicology,” Cosmetic Science Monographs Number 2 (1998)
2060	Corbett, “The Chemistry of Hair-care Products,” J. Soc’y of Dyers and Colourists 92(8):285–303 (1976)
2061	CONFIDENTIAL Deposition Transcript of R. Randall Wickett dated October 24, 2018 from PGR2018–00025
2062	Franbourg et al., Chapter 12 “Evaluation of Product Efficacy” from THE SCIENCE OF HAIR CARE (Bouillon C, Wilkinson J, eds., 2d edn. 2005).
2063	Harris, Chapter 9, “Monoprotic Acid-Base Equilibria” from QUANTITATIVE CHEMICAL ANALYSIS (7th ed. 2007).
2064	RESERVED
2065	CRC Handbook of Chemistry & Physics (85th Ed. 2005)
2066	Harris, Chapter 10, “Polyprotic Acid-Base Equilibria” from QUANTITATIVE CHEMICAL ANALYSIS (7th ed. 2007).
2067	HIGHLY CONFIDENTIAL E-mail bearing production number LO_USA0056223
2068	HIGHLY CONFIDENTIAL presentation bearing production numbers LO_USA0002413–30

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Ex.	Description
2069	HIGHLY CONFIDENTIAL E-mail bearing production number LO_USA0035379
2070	HIGHLY CONFIDENTIAL Defendants' Third Supplemental Objections and Responses to Plaintiffs' Interrogatory No. 2, dated May 8, 2018
2071	HIGHLY CONFIDENTIAL E-mail bearing production numbers LO_USA0026489-91
2072	HIGHLY CONFIDENTIAL Declaration of Edward T. Borish, Ph.D.

I. INTRODUCTION

1. I am currently the Vice President of Research and Development with Global Seven, Inc., a producer of specialty chemicals for personal care, household, and industrial products, and an independent consultant with ANA Innovation LLC, which helps clients develop new business opportunities in biotechnology, mass, and salon marketing, educational/scientific publishing, and retail merchandising.

2. I have been retained by Patent Owner Liqwd, Inc. (“Patent Owner”) as an independent expert consultant to provide my opinion on the issues raised by Petitioner L'Oréal USA, Inc. (“Petitioner”) in the above-referenced post grant review proceeding regarding U.S. Patent No. 9,668,954 (“the ’954 patent”).

3. I submit this declaration in support of Patent Owner’s Response to the Post Grant Review Petition filed by Petitioner L'Oréal USA, Inc. (“Petitioner”) in proceeding PGR2018–00025. I understand that the Patent Trial and Appeal Board (“Board”) has instituted proceedings with respect to claims 1–16 and 18–30 of the ’954 patent only. I have been asked to provide my opinions regarding whether claims 1–16 and 18–30 of the ’954 patent have been shown by Petitioner to be unpatentable in view of the following four grounds:

Ground	'954 Patent Claims	References
#1	1-16, 18, 19, 21, and 23-30	Pratt U.S. Patent Publ. 2012/0024309 ("Pratt," Ex. 1009) in view of Tanabe et al. U.S. Patent No. 6,358,502 ("Tanabe," Ex. 1007)
#2	20 and 22	Pratt and Tanabe in further view of Stone et al. U.S. Patent Publ. 2013/0034515 ("Stone," Ex. 1008)
#3	1-16, 18, 19, 21, and 23-30	Pratt and Tanabe in further view of German Patent Publ. 1 220 969 ("Berkemer," Ex. 1003 and Ex. 1004) and Korean Patent Publ. 10- 2006-0059564 ("KR '564," Ex. 1005 and Ex. 1006)
#4	20 and 22	Pratt, Tanabe, Berkemer, and KR '564 in further view of Stone

4. I am being compensated for my time spent in connection with this matter at my usual rate of \$420 per hour. I have no financial interest in the

outcome of this proceeding, and my compensation is unaffected by the content of my testimony.

5. This declaration identifies my opinions to date. I reserve the right to supplement this declaration, if allowed by the Board under the relevant rules, to address any new issues raised by Petitioner or its experts, or resulting from further rulings of the Board or otherwise from further proceedings.

6. I base the following opinions on my personal knowledge and experience, as well as my review of the relevant documents as listed below.

II. QUALIFICATIONS

7. I have approximately 35 years of academic and professional experience in the field of cosmetic science, and over 25 years of overlapping experience relating to the development of hair care products.

8. I obtained a Bachelor of Science (Chemistry) degree at the University of Massachusetts at Lowell in Lowell, Massachusetts, in 1979, and a Doctor of Philosophy (Ph.D.) degree in Inorganic Chemistry at the University of Rhode Island in Kingston, Rhode Island, where my thesis research involved Silver (III) redox reactions, in 1984.

9. I have taught in the areas of chemistry, biochemistry, and cosmetics science at the University of Cincinnati as an Adjunct Professor and at Louisiana State University and the University of Rhode Island.

10. I was a Post-Doctoral Research Associate and Senior Post-Doctoral Researcher at Louisiana State University in Baton Rouge, Louisiana, where I studied free radical biochemistry, from 1984–1987.

11. In 1987, I left academia and joined Helene Curtis, Inc. as a senior chemist, where my work involved identifying and developing technologies and products for the salon and mass markets.

12. In 1990, I left Helene Curtis to pursue an opportunity with a subsidiary of Kodak (L&F Products). I was the group leader charged with

developing new hair care and skin care products. This work led to a number of products that were commercialized, including Ogilvie Tender Color Hair Color, and a new perm product called Heat Activated Whisper Wave.

13. I joined a division of Shiseido Company Ltd. (Zotos International) from 1993–1997, and was promoted to Vice President of Research and Development in 1994. I was responsible for directing all aspects of research and development regarding personal care products for the salon business. Among the innovations that we worked on were innovations for hair growth, sunscreens, sunless tanners, and dietary supplements.

14. In 1999, I joined Bath & Body Works as Director of Research and Development, and helped launch 800 new products during a three-year period. Among my responsibilities was directing development of high performance skin and hair care lines as well as antibacterial products.

15. In 2002, I joined Global Seven, where I am currently employed.

16. I have over fifty patents, publications, and presentations covering both applied and basic research relating to chemistry, biochemistry, and associated sciences, and design, and development of products in the health and personal care industry.

17. I have consulted on numerous hair care products for a variety of companies, including Abercrombie & Fitch (the famous American fashion brand),

Dragoco Gerberding & Co. AG (an international supplier of perfume compositions, aroma chemicals, cosmetic raw materials and active ingredients, and flavors), and Genencor (a biotechnology company that is now part of DuPont), to name a few.

18. I have authored and/or co-authored a number of articles and book chapters relating to hair care products. The complete list of my publications is provided in my curriculum vitae.

19. My curriculum vitae (Exhibit 2032) further highlights my education, experience, and qualifications as an expert in formulating and testing hair care products.

III. SUMMARY OF OPINIONS

20. I conclude Petitioner has not met its burden to show that any of the '954 patent claims in dispute would have been unpatentable as obvious to a hypothetical “person of ordinary skill in the art” or POSITA as of May 16, 2014 over Petitioner’s proposed combinations of references: (a) Pratt and in view of Tanabe as to '954 patent claims 1–16, 18, 19, 21, and 23–30, (b) Pratt and Tanabe in view of Stone as to '954 patent claims 20 and 22, (c) Pratt in view of Tanabe, Berkemer, and KR '564 as to '954 patent claims 1–16, 18, 19, 21, and 23–30, or (d) Pratt, Tanabe, Berkemer, and KR '564 in further view of Stone as to claims 20 and 22.

21. As detailed below, I find that claim 1 of the '954 patent would not have been obvious over the Pratt/Tanabe and Pratt/Tanabe/Berkemer/KR '564 combinations. Further, I find considerable objective evidence of nonobviousness, including long-felt and unmet need, Petitioner’s copying, commercial success, unexpected results, and professional praise/skepticism. Because I have determined that claim 1 of the '954 patent would have been nonobvious, I am informed and understand that the dependent claims of the '954 patent also are not obvious.

22. Accordingly, it is my opinion that the Board should uphold the patentability of the '954 patent claims.

23. My opinions are based upon: my review of the '954 patent, the file history of the '954 patent (including when necessary a review of the prior art cited in the '954 patent); my review of Petitioner's petition for Post Grant Review of the '954 patent in this proceeding, the references relied on by Petitioner, Dr. Wickett's declaration (Ex. 1012), and the Board's Decision on Institution of PGR (Paper 12); exhibits cited in this declaration; my education, knowledge, and experience; my understanding of basic science as well as principles and practices in the field of cosmetic science; my review of testing performed at my direction and described herein; and the perspective of a POSITA.

IV. LEVEL OF SKILL IN THE ART

24. I understand that evaluation of the Petition requires interpretation of various patent documents (e.g., the '954 patent), and patent documents are written to be read and understood from the point of view of a POSITA at the time the patent application was filed.

25. I understand that the POSITA is a hypothetical person who is presumed to have known the relevant art at the time of the invention. I understand that factors that may be considered in determining the level of ordinary skill in the art may include: (a) type of problems encountered in the art; (b) prior art solutions to those problems; (c) rapidity with which innovations are made; (d) sophistication of the technology; and (e) educational level of active workers in the field. I further understand that a POSITA is defined not only by skill level and experience, but also by ordinary creativity and common sense.

26. I understand that the '954 patent claims priority to May 16, 2014. My opinions herein are based on what a POSITA would have understood as of about May 16, 2014.

27. My opinion on the level of ordinary skill in the art is based on my personal knowledge and experience as well as my consideration of such things as the education and experience level of persons of skill working in the field.

28. In my opinion, the field of invention is cosmetic science. More specifically, the '954 patent relates to methods for rebuilding the disulfide bonds in keratin found in hair. (Ex. 1001, Abstract). With respect to the '954 patent, a POSITA as of May 16, 2014 would have a college degree in chemistry or an associated science. In addition, a POSITA would have had several years of work experience.

29. I have reviewed the declaration of R. Randall Wickett, Ph.D. (Exhibit 1012). In that declaration, Dr. Wickett gives his opinion as to the skill level of a POSITA at the time of the invention of the '954 patent: “someone with at least an Associate’s degree in chemistry, chemical engineering, or a related field, and at least 5–7 years of laboratory experience with formulation and testing of hair care products, with special emphasis on reactive products; or someone with a Ph.D. in chemistry, chemical engineering, or a related field and with at least minimal prior laboratory experience with formulation and testing of hair care products.” (Ex. 1012, ¶34). I had at least the qualifications of a POSITA under this definition at the time that the '954 patent was filed.

30. In my opinion, Dr. Wickett has created an unrealistically high level of skill in the art. In my knowledge and experience, a person formulating hair care products often would not have 5–7 years of laboratory experience in formulation and testing of hair care products. Also, someone with a Ph.D. in chemistry,

chemical engineering, or a related field would not typically be involved in the day-to-day process of formulating hair care products in a laboratory. However, my opinions in this declaration do not change whether my definition of a POSITA or Dr. Wickett's definition is used.

31. I also note that Dr. Wickett is unclear as to the proper date of invention, and mentions both May 2014 and January 2017. (Ex. 1012, ¶34). Dr. Wickett was informed by Petitioner's counsel that the '954 patent claims are not entitled to rely on the May 2014 filing date of the original provisional application and says certain features in claims 1, 5, and 6 are not properly disclosed in the earlier applications. (Ex. 1012, ¶¶40, 40 n.1, 42 n.2). As discussed below in paragraphs 90–108, Dr. Wickett was misinformed and each of the identified '954 patent claims is entitled to rely on the May 2014 filing date of the provisional application.

32. Nonetheless, even if January 2017 is the proper date of invention (i.e., time period for assessing obviousness), my opinions in this declaration do not change and the '954 patent claims would not have been obvious to a POSITA at that time as explained below.

V. LEGAL STANDARDS

33. I am not a legal expert and offer no opinions on the law. However, counsel has informed me of legal standards that apply with respect to determining patent validity.

34. It is my understanding that Petitioner bears the burden of proving by a preponderance of the evidence that the '954 patent claims are unpatentable. I understand that the preponderance of the evidence standard is satisfied if the proposition is more likely to be true than to be not true.

35. I have been informed that a patent includes the written description of one or more preferred embodiments of the invention, figures, and one or more claims that point out and claim the subject matter of the invention. The claims define and measure the patent's scope. Each claim defines a separate invention.

36. I have been informed that the determination of patent validity for obviousness requires a two-step process. First, the language of the claims being evaluated is construed. Second, the construed claims are compared to the prior art.

A. CLAIM CONSTRUCTION

37. I have been advised that in a post grant review, the Board gives claim terms in an unexpired patent their broadest reasonable construction in light of the specification in which they appear. Claim terms also are given their ordinary and

customary meaning, as would be understood by a POSITA in the context of the entire patent disclosure.

38. I also have been informed and understand that if the patentee has clearly defined a claim term in the patent specification or file history, such definition is applied.

B. OBVIOUSNESS

39. I understand that a patent claim may be unpatentable as obvious if, at the time of the invention, the differences between the patented subject matter and the prior art are such that the subject matter as a whole would have been obvious to a POSITA. I also understand that analysis of obviousness requires consideration of: (a) the scope and content of the prior art; (b) the differences between the prior art and the claims at issue; (c) the level of ordinary skill in the art; and (d) the objective secondary factors of nonobviousness (for example, copying, long-felt unmet need, and unexpected results).

40. I have been informed by counsel and I understand that, in order to evaluate the obviousness of the '954 patent claims over a given prior art combination, I should analyze whether the prior art references disclose every limitation of the challenged claims either explicitly or inherently, as those references are read by the POSITA at the time of the invention. Then I am to

determine whether that combination would have made the claimed invention, as a whole, obvious to the POSITA by a preponderance of the evidence.

41. I further understand that it is not enough to simply show that the references disclose each element of a patent claim. Two additional showings must be made. First, there must be a reason (whether explicit or implicit) that would have prompted a POSITA to combine elements found in the prior art and to arrange them as described in the patented subject matter. I understand that the law requires that there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. Second, there must be a reasonable expectation that a POSITA would have had success in combining the teachings of the prior art.

42. I further have been informed and understand that a reference may be said to teach away from a particular modification when a POSITA, upon reading the reference, would be discouraged from following the path set out in the reference or would be led in a direction divergent from the path that was taken by the inventors.

43. I understand that, notwithstanding what the teachings of the prior art would have suggested to a POSITA at the time of the invention, the totality of the evidence submitted, including objective evidence of nonobviousness, may lead to a conclusion that the challenged claims would not have been obvious to a POSITA.

44. I understand there must also be a causal relationship, termed a “nexus,” between the objective evidence of nonobviousness and the claimed invention. I understand that all types of objective evidence of nonobviousness must be shown to have a nexus. The stronger the showing of a nexus, the greater the weight accorded the objective evidence of nonobviousness.

C. PRIORITY

45. I have been told, and understand, that to be entitled to the benefit of an earlier application, the invention claimed must have been disclosed in the earlier application in the manner provided by 35 U.S.C. §112(a). A verbatim disclosure is not necessary, so long as the disclosure reasonably conveys to a POSITA that the inventor had possession of the subject matter in question, even if every nuance of the claims is not explicitly described in the specification. For example, a priority claim may be proper if a POSITA could derive claim limitations from the earlier application’s disclosure.

VI. '954 PATENT

A. BACKGROUND AND STATE-OF-THE-ART AS OF THE PRIORITY DATE OF THE '954 PATENT, MAY 16, 2014

46. The '954 patent discloses an innovative way to protect hair during damaging bleaching treatments involving developer and bleach powder.

47. Hair fibers consist primarily of fibrous proteins belonging to the keratin family. (Ex. 1011, p. 4). Proteins are polymers consisting of polypeptide chains formed from condensation (or bonding) of amino acid building blocks. A feature that distinguishes keratin from other fibrous proteins is high content of the sulfur-containing amino acid cystine. (Ex. 1011, p. 4).

48. Cystine forms covalent crosslinks (or bonds) between polypeptide chains. (Ex. 1011, p. 4). “These crosslinks give a high degree of physical and chemical stability to the keratin fiber.” (Ex. 2006, p. 1).

49. Morphologically, hair structure generally has three distinct components: the cuticle, the cortex, and the medulla. (Ex. 2006, p. 1). The shingle-like cuticle layer forms the hair’s exterior and encloses the corticular mass. (Ex. 1011, p. 3). The cortex constitutes the bulk of the hair fiber and contains tightly packed elongated cortical cells oriented parallel to the fiber axis. (Ex. 1011, p. 3). These cells contain α -helical microfibrils embedded in a cystine-rich amorphous protein matrix. (Ex. 1011, p. 5). The medulla is located toward the

center of the hair fiber, is composed of loosely attached spongy cells, and makes up only a small percentage of the hair fiber. (Ex. 1011, p. 3). In some human hair fibers, the medulla may be absent. (Ex. 1011, p. 3).

50. Melanin is the natural pigment present inside of hair fibers. (Ex. 2005, p. 2). Melanin pigment granules are located within the cortex of the hair fiber. (Ex. 1011, pp. 3, 5–6; Ex. 2005, p. 2).

51. Bleaching typically lightens hair color by oxidation reactions. Chemicals are applied to the hair, which react with the color pigment in the hair and change that pigment so it no longer imparts color to the hair. A typical bleaching process involves two components: powder lightener (also known as bleach powder) and developer. (Ex. 1001, Col. 16, lines 55–57). The bleach powder is often referred to as a “booster,” because it contains persulfates that increase the oxidizing power significantly over developer alone. (Ex. 2005, p. 6). The persulfates and the developer work together in a complementary fashion synergistically to aggressively oxidize the melanin and pigments during hair bleaching. (Ex. 2005, pp. 6–7).

52. Bleach powder is generally at least one salt of a persulfate together with one or more alkalizing agents. (Ex. 2010, p. 3; Ex. 2011, pp. 1, 3; Ex. 1001, Col. 22, lines 55–56, Col. 23, lines 30–31, and Col. 23, lines 64–65; Ex. 1011, p. 17 (“bleach powder ... consists of a peroxodisulfate, an alkalizing agent,” and

other ingredients; also teaches that (“[t]he ammonium salt is most effective; when combined with an alkalinizing component such as sodium carbonate or silicate, ammonia is formed”); Ex. 2005, p. 6 (“bleach booster” powder is discussed that “is usually a mixture of ammonium and potassium persulfates” and that has “metasilicates mixed in with the persulfates” to provide “[a]lkaline pH.”); Ex. 2033, p. 12 (“high pH” of bleach powder “is obtained using either metasilicates or phosphates or carbonates)).

53. Cream and gel bleaches also can include bleach powder. (Ex. 1011, p. 17). Conventional bleach powder includes an alkalizing agent. (Ex. 1011, p. 17 (defining bleach powder as including “peroxodisulfate” and “an alkalinizing agent”); Ex. 2007, pp. 2–3 (describing three-part bleach composition with “hair lightener base,” “lotion developer,” and bleach powder “containing salts of persulfate” and sodium silica alkalizing agent). Accordingly, these cream and gel bleaches also include an alkalizing agent from the bleach powder.

54. Exhibits 2010 and 2011 are exemplary of the contents of bleach powders today as well as before the ’954 patent invention. I also went to both Cosmoprof and SalonCentric and looked at the contents of commercially available bleach powders, and each product I looked at contained alkali (generally sodium silicate or sodium metasilicate).

55. Developer is generally supplied as an acidic hydrogen peroxide solution, which in combination with the persulfate bleach powder is the oxidizing agent. (Ex. 2005, p. 6). Hydrogen peroxide-containing developer is “generally supplied at pH 3 to 4.” (Ex. 2005, p. 6; see also Ex. 2006, p. 5 (“usually stored in acid solution.”)).

56. An important aspect of bleaching formulations is inclusion of alkali so that the bleaching formulation applied to the hair is sufficiently alkaline to swell hair fibers. (Ex. 1012, ¶21; Ex. 2021, ¶15; Ex. 1011, p. 17). This swelling makes hair fibers permeable to bleaching chemicals, which must penetrate into the hair fibers to reach the melanin granules or other pigments inside the hair fiber in order to oxidize them and decolorize the hair. (Ex. 1012, ¶21; Ex. 2021, ¶15; Ex. 1035, p. 2, lines 22–26 (alkaline agent “causes swelling of the keratin fibre, with opening of the scales, which promotes the penetration of the oxidizing agent” into the hair); Ex. 2005, p. 6). The alkali also helps accelerate the bleaching action by elevating pH. (Ex. 2005, p. 6 (“peroxide solutions are only active for bleaching in alkaline solution”; and “bleaching markedly decreases with decreasing pH.”); Ex. 1035, p. 2, lines 20–22 (alkaline agent “makes it possible to adjust the pH of the composition to an alkaline pH to enable activation of the oxidizing agent”); Ex. 1012, ¶19 (“Bleach powders ... may be added ... to intensify or accelerate the

bleaching process.”); Ex. 2007, p. 56 (“dissolution” of melanin “is at a maximum near the pK of hydrogen peroxide (pH 11.75).”).

57. Initially, the hydrogen peroxide dissolves and disperses melanin granules. (Ex. 2005, p. 7). This dissolution/dispersion step by itself is not bleaching, and the pigment is not destroyed and remains able to color hair. A slower de-coloration step follows, where the melanin and artificial pigments are chemically altered. (Ex. 2005, p. 7).

58. In addition to changing hair pigment as intended, hair bleaching is very destructive and the bleaching process can also create harmful side reactions. (Ex. 2005, p. 7; Ex. 1009, ¶3 (“unavoidable”). Oxidative hair bleaching was known to destroy disulfide bonds within the keratin, to cause negative charge to accumulate on the hair fiber surface, and to damage the cuticle. (Ex. 2005, pp. 6–7; Ex. 2006, pp. 3, 6; Ex. 1011, p. 16). As the ’954 patent explains, harsh chemical treatments involve chemicals that can break the natural bonds in the hair and cause severe hair damage, especially when the chemical treatments are applied repeatedly. (Ex. 1001, Col. 1, line 26–Col. 2, line 11; Col. 2, lines 24–34; Col. 24, lines 11–18; see also Ex. 1011, p. 16).

59. The problem that bleaching causes damage to hair has long been known. Berkemer was filed in 1964 and discloses that repeated bleaching causes numerous problems (e.g., making hair brittle, opening the hair cuticles and making

hair appear “lusterless and dull”). (Ex. 1004, p. 2, lines 24–32; see also Ex. 1042, Col. 1, lines 23–26 (“Damaged hair is recognized by one or more defects such as brittleness, split ends, scaling, low tensile strength, lack of luster, excessive elasticity, increased porosity, and poor manageability”) and Ex. 1043, Col. 1, lines 38–42; Ex. 1041, Col. 2, lines 27–28 (“Repeated oxidative treatments leave weak, brittle hairs, which have little shine and luster”)).

60. Thirty years later, textbooks continued to report, “the aggressive nature of the bleaching mixtures can result in significant damage to hair.” (Ex. 2005, p. 6; see also Ex. 1011, p. 17 (“problem of hair damage must always be considered” after hair bleaching). Some of the damage affects the aesthetic quality of the hair, causing it to lose its luster and appear “flat.” (Ex. 2005, p. 6; Ex. 1017, p. 726 (“reduce hair gloss by damaging cuticles”)). Damage also can be perceived because the hair feels more brittle, is more likely to break, and is more sensitive to humidity. (Ex. 2005, p. 7; Ex. 1006, p. 3 (¶7) (“hair becomes porous and stiff” after bleaching “making it easy to break”)).

61. Also, failure to remove alkali leaves hair swollen and soft, making the hair more susceptible to mechanical damage. (Ex. 1006, p. 3 (¶12) (“there is residual alkali in the hair so that the expanded condition of the hair is maintained”)).

62. Even shortly before the effective filing date of the '954 patent, experts described that bleaching altered the physical properties of hair, lowering its mechanical strength, giving hair a rough, straw-like feel when dry and giving hair a spongy feeling when wet. (Ex. 1011, p. 16 (“When a strong bleach is used, alteration of the chemical properties of hair also results in modified physical properties: a higher extensibility and thus lower mechanical strength; a rough, strawlike feel when dry; and a spongy feeling when wet.”); Ex. 1009, ¶3 (“damaging effects of bleaching compositions are unavoidable”); Ex. 1038, Dispenza Tr. 56, lines 9–15; Ex. 2009, pp. 555–57).

63. The evidence that bleaching was known to damage hair is so overwhelming that even Petitioner’s declarant (Dr. Wickett) conceded bleaching has been known to damage hair, causing it to be brittle, dull, and otherwise diminished in appearance. (Ex. 1012, ¶22). A declarant for Petitioner in another PGR proceeding made a similar admission. (Ex. 2021, ¶16 (“the bleaching process has long been known to damage hair, causing it to be brittle, dull, and otherwise diminished in appearance.”)).

64. Prior to the '954 patent, it was understood that each application of a bleaching treatment damaged the hair. In general, when bleach was applied to hair, techniques were used to avoid or at least minimize re-bleaching already damaged hair. For example, bleach might be re-applied after six to eight weeks or so and

only to the previously untreated roots of the hair fibers (new hair growth), and not to the previously bleached hair. (Ex. 2005, p. 13 (“subsequent [bleaching] treatments are only applied to the new growth areas (root application) for this length of time to limit cumulative damage”); Ex. 2033, p. 13 (“crucial that bleaching be localized to the portions where it is needed” because “[e]xtension onto areas that have been previously bleached can only increase the damage to the hair.”))

65. After-the-fact treatments with toners, conditioners, oils, and silicones also were used prior to the '954 patent to mask the structural damage caused by earlier bleaching. (Ex. 1038, Dispenza Tr. 23, line 23–Tr. 24, line 13 and Tr. 55, lines 5–18; Ex. 2005, pp. 6, 7, 13). For example, cationic compounds, and silicones could be applied to already damaged hair that would improve the feel and combability of the hair. (Ex. 1011, pp. 8, 12, 17). Conditioning compounds could be applied to be hair to temporarily improve surface roughness and combability of the hair. (Ex. 1011, p. 12, (“Combability improvers include the cationic film-forming polymers listed above and cationic surfactants such as cetyltrimethylammonium chloride, bromide, or phosphate. Cationic silicones known as amodimethicone are also often used.”); Ex. 1038, Dispenza Tr. 67, line 24–Tr. 68, line 3; Ex. 2022, p. 330 (“For hair conditioning products the principle function involves combability. Ease of combing depends primarily on

lubrication of the fiber surface.”); Ex. 2033, p. 11 (“softeners or conditioning agents may be added, whereby the mixture will afford hair smoother feel, combability, and sheen.”)).

66. It was also known to apply acidic compositions to hair after bleaching had been completed in order to neutralize any residual alkali and to smooth the hair surface. (Ex. 1004, p. 2, line 34–p. 3, line 5; Ex. 1006, p. 3 (¶19) (“use acid to return the hair to its original condition”); Ex. 1011, p. 10 (“earliest conditioning treatments” were “acid rinses” that counter-acted undesirable “swelling of hair”) and p. 17 (acidic conditioners neutralized alkali residues in the hair and reversed hair swelling); Ex. 1038, Dispenza Tr. 95, line 5–Tr. 96, line 12 and Tr. 97, lines 11–24).

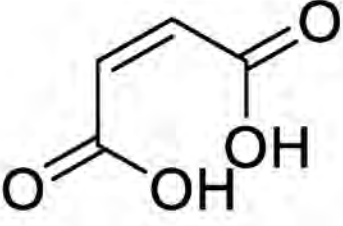
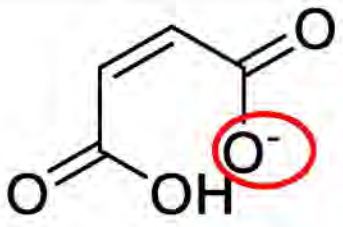
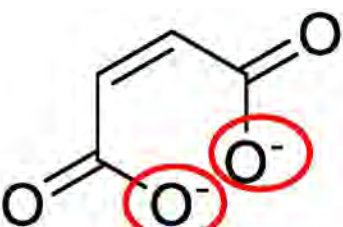
67. Further, it was known to apply antioxidant compositions to hair after bleaching had been completed to neutralize residual oxidants remaining in the hair. (Ex. 1011, p. 17 (“To prevent ‘delayed’ oxidation, which may result from residual hydrogen peroxide in the hair, antioxidants such as ascorbic or glyoxylic acid may be added to the conditioning agent”); Ex. 1007, Col. 3, lines 18–26; Ex. 1004, p. 3, lines 30–37 (unsaturated compounds “counteract the post-oxidation that is harmful for the hair surface after a bleaching, in that they react with the peroxides remaining in the hair to form oxyacids or peroxyacids which, as do the olefinic compounds, display an astringent action, and thereby serve for the same desired

purpose of surface smoothing”); Ex. 2021, ¶165 (Berkemer teaches to counteract harmful post-oxidation)).

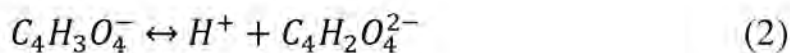
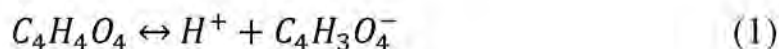
68. However, these after-the-fact treatments did not prevent the damage from occurring during bleaching. (Ex. 1009, ¶3 (“damaging effects of bleaching compositions are unavoidable”); Ex. 1011, p. 10 (action of hair conditioners “restricted largely to modifying the surface qualities of the hair and making it glossy”); Ex. 1038, Dispenza Tr. 67, line 24–Tr. 68, line 3; Ex. 1041, Col. 2, lines 38–42 (“conditioners do not bring the hair back to its initial condition but merely conceal the damage under a protective layer of the conditioning agent, which only results in an improved feel of the hair”)). Before the ’954 patent invention, there was a need for a way to bleach hair while protecting it from bleach damage.

69. Maleic acid is a dicarboxylic acid that has been known since the 1800s and has been commercially available since 1928. (Ex. 2034, p. 1). Despite being a very old chemical, maleic acid was seldom used in cosmetic products before the ’954 patent invention and even then is typically used at low concentrations. (Ex. 2035, p. 125 (maleic acid “is used in a few cosmetic product formulations at low concentrations”), p. 126 (“In 2002, Maleic Acid was reported to be an ingredient in three formulations of hair products and shaving creams”)).

70. Maleic acid exists in three forms: (1) maleic acid, (2) hydrogen maleate, and (3) maleate, whose chemical structures are depicted below.

Maleic Acid	
Hydrogen Maleate	
Maleate	

In the images above, maleic acid refers to the fully protonated species. It exists in environments with acidic pH. As the pH increases by addition of alkalizing agents, maleic acid becomes deprotonated. Hydrogen maleate forms when one proton is removed. Maleate forms when two protons are removed. The acid equilibrium equations for the forms of maleic acid may be written as below:



71. Maleic acid has two acid dissociation constants or pK_a values (1.9 and 6.2). (Ex. 2034, p. 40). Amounts of the three species pictured above at a given pH can be estimated using the pK_a values for maleic acid. When the pH is less than 1.9, maleic acid will be the predominant species. When the pH is equal to the first pK_a value (1.9), fully protonated maleic acid and hydrogen maleate will be present in equal amounts. As the pH increases above 1.9, the amount of fully protonated maleic acid will be greatly reduced and the hydrogen maleate will be the predominant species. When the pH is equal to the second pK_a value (6.2), hydrogen maleate and maleate will be present in equal amounts. As the pH increases above 6.2, maleate will be the predominant species. Maleate is called a conjugate base, and it cannot act as an acid because it does not have any acidic protons.

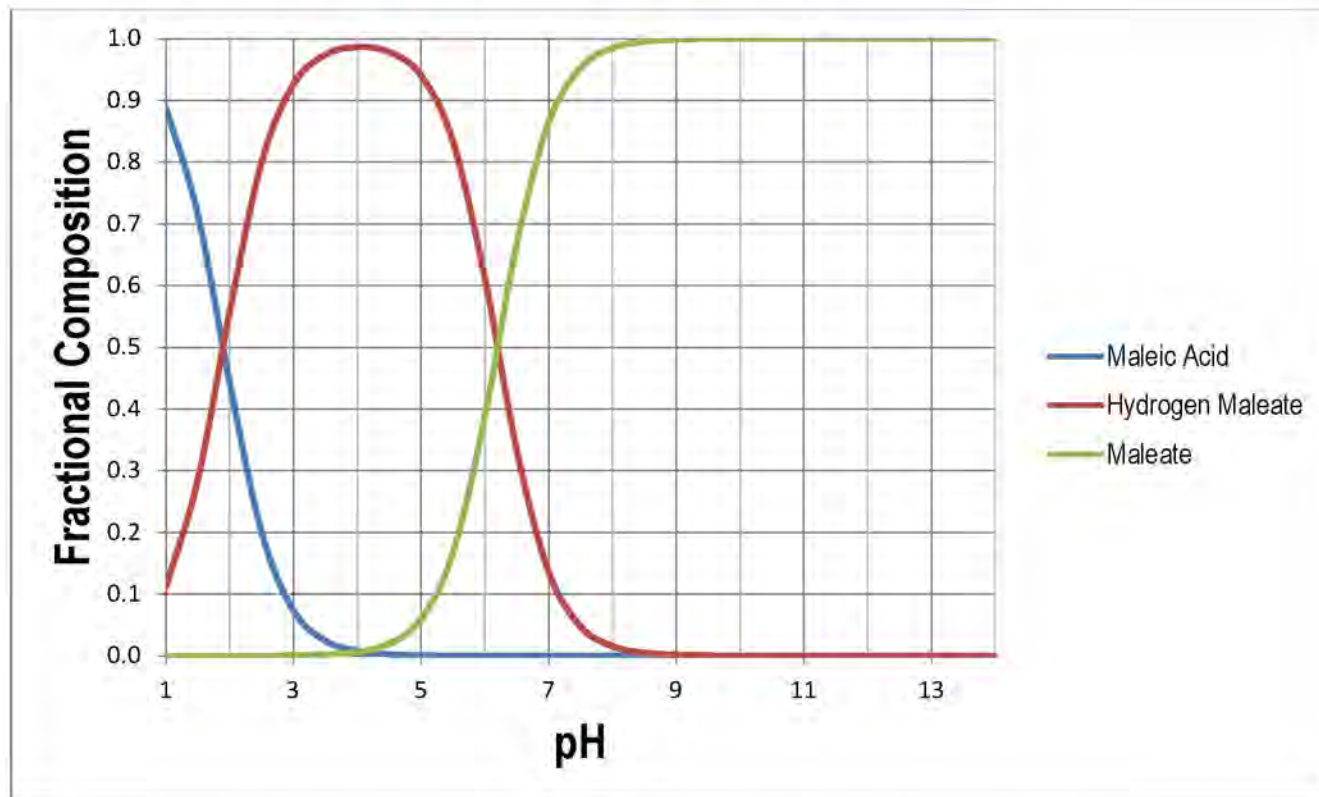
72. The equilibrium expressions corresponding to the above acid equilibrium equations can be solved to give the amounts of the maleic acid, hydrogen maleate, and maleate at various pH values:

$$\alpha_{C_4H_4O_4} = \frac{[H^+]^2}{[H^+]^2 + [H^+]K_{a1} + K_{a1}K_{a2}} \quad (3)$$

$$\alpha_{C_4H_3O_4^-} = \frac{[H^+]K_{a1}}{[H^+]^2 + [H^+]K_{a1} + K_{a1}K_{a2}} \quad (4)$$

$$\alpha_{C_4H_2O_4^{2-}} = \frac{K_{a1}K_{a2}}{[H^+]^2 + [H^+]K_{a1} + K_{a1}K_{a2}} \quad (5)$$

(Ex. 2066, p. 192). The graph below estimates the fraction of fully protonated maleic acid, hydrogen maleate, and maleate at various pH values:



73. Maleic acid has been reported to have various toxicological side-effects in animals, including kidney infections in rabbits, experimentally induced Fanconi syndrome in rats and dogs, blindness in rabbits, and reproductive side effects in hamsters. (Ex. 2035, pp. 127–128). In humans, maleic acid has caused acute vesicular dermatitis (a severe form of skin inflammation). (Ex. 2035, p. 129). Also, because of the double bond in maleic acid, a POSITA would have understood that maleic acid is susceptible to other reactions such as oxidation, which would impact its long-term stability. Further, the safety data sheet for maleic

acid warns that maleic acid is a skin sensitizer and that it is incompatible with alkali and oxidants. (Ex. 2036, pp. 1, 3, 5, 6, 7, 9).

B. THE CLAIMED INVENTIONS OF THE '954 PATENT

74. The '954 patent discloses and claims a new hair bleach method that addresses the underlying problem (damage during oxidative hair bleaching) by preventing or repairing damage to hair during bleaching. This invention solved the previously unmet need for a way to address damage during oxidative hair bleaching with bleach powder and developer.

75. The '954 patent has twenty-nine claims¹ including one independent claim (claim 1), all of which were challenged by Petitioner. Exhibit 2001 lists all of the challenged claims.

76. Claim 1 of the '954 patent sets forth a method for bleaching hair involving three steps: (a) mixing a bleach powder and a developer to form a bleaching formulation, (b) mixing a maleic acid active agent formulation with the bleaching formulation to form a mixture, and (c) applying that mixture to the hair.

¹ I have been told that Patent Owner filed a paper with the U.S. Patent Office called a statutory disclaimer on May 18, 2018, which disclaimed claim 17 of the '954 patent, and that the Board did not institute post-grant review of claim 17. (Paper 12, p. 3 footnote 1). I offer no opinions about claim 17.

(Ex. 1001, Col. 25, lines 58–64). The weight of active agent relative to the final mixture also is described. (Ex. 1001, Col. 25, lines 65–67).

77. Claim 1 is reproduced below:

Independent Claim 1 of the '954 Patent

1. A method for bleaching hair comprising:

- (a) mixing a bleach powder and a developer to form a bleaching formulation,
- (b) mixing an active agent formulation comprising an active agent with the bleaching formulation to form a mixture, wherein the active agent is maleic acid; and
- (c) applying the mixture to the hair;

wherein the active agent in the mixture is at a concentration ranging from about 0.1% by weight to about 50% by weight.

78. According to claim 1, the active agent concentration ranges from about 0.1 wt. % to about 50 wt. %. (Ex. 1001, Col. 25, lines 65–67). A POSITA would have understood this concentration language to require a comparison of the weight of the active agent added to the active agent formulation with the total weight of the mixture applied to the hair.

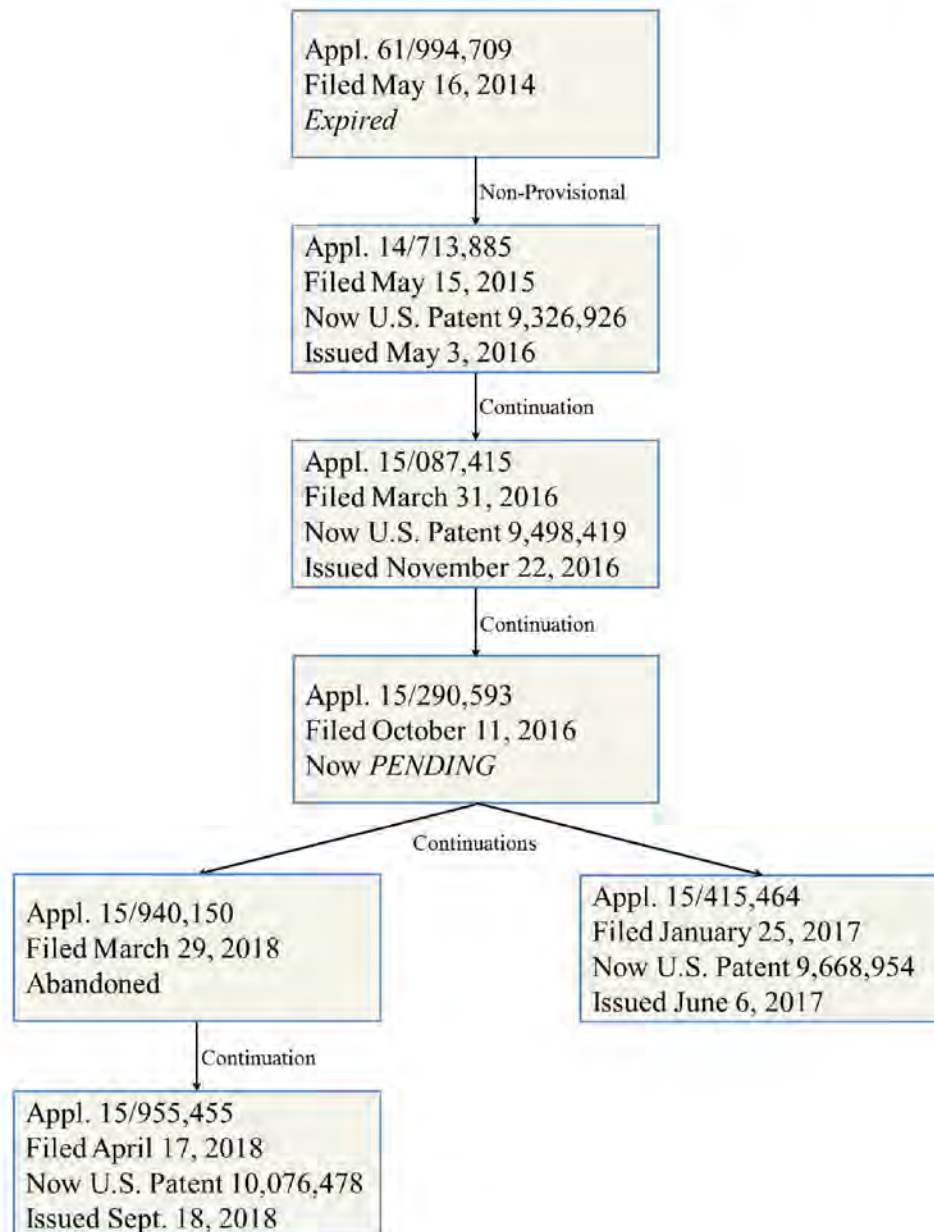
79. Example 3 of the '954 patent describes a hair bleaching method that uses an active agent formulation made from 2 grams of maleic acid in 10 grams of total solution (water). (Ex. 1001, Col. 22, line 38–Col. 23, line 17). 9 ml (9 grams) of active agent formulation are added into the mixture, meaning that only 90% of the 2 grams of maleic acid in the active agent formulation, i.e., 1.8 grams of maleic acid, are included. Thus, the active agent in the final bleaching mixture applied to the hair is at a concentration of 2.8 wt% (1.8 grams of the active agent in the mixture divided by 65 grams in the total mixture):

Component	Weight (g)
Developer (1 oz.)	28
Bleach powder (1 oz.)	28
Active Agent Formulation (9 ml)	9
Total	65

80. Hair treated in this manner during bleaching showed “[a] noticeable difference in hair quality” in terms of softness, less frizz, hydration, and shine, and these benefits were persistent even after five washings. (Ex. 1001, Col. 23, lines 8–17).

VII. PROSECUTION HISTORY

81. The '954 patent issued on June 6, 2017 from a family or group of patent applications dating back to May 16, 2014. (Ex. 1001, cover page, item (63)).

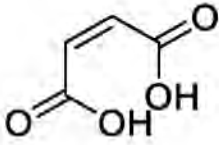
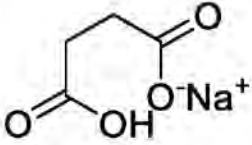
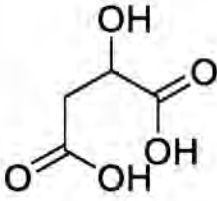
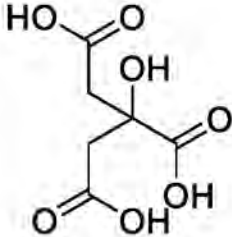


(Ex. 1001, cover page, items (10), (21), (22), (45), (60), and (63); Ex. 2054, cover page, items (10), (21), (22), (45), (60), and (63)).

82. Prosecution of the '954 patent (and the related patent applications) involves the independent Patent Examiner's thorough consideration of hundreds of prior art references and determination that the claims were patentable. The '954 patent reflects consideration of 75 U.S. patents/published patent applications, 77 foreign patents/published patent applications, and 180 non-patent literature references. (Ex. 1001, cover page, item (56) and pp. 2–5).

83. The Examiner was initially skeptical that the selection of maleic acid out of the group of known di- and tri-carboxylic acids was inventive. During prosecution of the '885 application, the Examiner requested evidence (a declaration with data) showing that “a small change (i.e., going from citric acid to maleic acid) produced a significantly significant difference in the quality of the hair following a color treatment.” (Ex. 2037, p. 2). Attorneys for Patent Owner provided this declaration on October 29, 2015, and it showed that a bleaching mixture with about 1.1 wt% maleic acid reduced hair breakage, improved the feel of the hair, and provided an overall healthy appearance, while similar carboxylic acids and other chemicals did not. (Ex. 2038, pp. 4–6).

84. To illustrate the disparate results achieved by similar chemicals, I have excerpted the data for three chemicals which provided very different results despite their structural similarity:

Maleic Acid	Sodium Salt of Succinic Acid	Malic Acid	Citric Acid
			
“No breakage, great feel, with healthy appearance”	“Significant breakage, rough feel, frayed, with unhealthy appearance”	“Some breakage, rough feel, frayed, with unhealthy appearance”	“Some breakage, rough feel, frayed, with unhealthy appearance”

(Ex. 2038, p. 4)

85. The Examiner then allowed the pending claims and explained “[o]ne of ordinary skill in the art would not have expected the significant difference in hair quality (breakage, feel, and appearance)” resulting from the use of maleic acid.

(Ex. 2039, p. 10). This led to the issuance of the related ’926 patent.

86. During prosecution of the '455 application, the Examiner again requested data showing the unique benefits of using maleic acid during a hair bleaching method as compared with similar chemicals. (Ex. 2040, p. 3). An August 6, 2018 declaration by Dr. Pressly details a series of experiments showing the unexpected results provided by maleic acid or salts thereof as compared with other common acids or salts thereof (e.g., citric acid). (Ex. 2041, ¶5). Three different concentrations of the active agent in the bleaching mixture were used (0.1 wt%, 0.7 wt%, and 5 wt%). (Ex. 2041, ¶6). The use of these various concentrations in the bleaching mixture improved hair quality (breakage, feel, and appearance) while equivalent concentrations of citric acid did not. (Ex. 2041, ¶¶7–10).

87. In the Reasons for Allowance, the Examiner explained that Dr. Pressly's declaration (Ex. 2041) "is persuasive to establish the unexpectedness of maleic acid compared to conventional acids utilized as pH adjusters; namely citric acid." (Ex. 2042, p. 3). This led to the issuance of the related '478 patent.

VIII. CLAIM CONSTRUCTION

88. I agree with the Board’s determination in its August 10, 2018 decision that no construction of any term of claim 1 of the ’954 patent is necessary to resolve the patentability of a claim based on information in the PGR petition. (Paper 12, p. 9).²

89. Petitioner fails to provide any interpretations of terms in claim 1, except to say that Petitioner has used an interpretation that “the claims should be interpreted to include salts of maleic acid” in the mixture applied to the hair. (Pet., p. 21; see also Ex. 1012, ¶39). I have been told that the Board in the PGR2018–00023 proceeding construed the “maleic acid” terms to mean “the active ingredient as added to the active agent formulation in order to form the mixture” and explained that “this interpretation does not exclude the formation of maleic acid

² In view of the two other PGR Petitions (PGR2018–00023 and PGR2018–00024) filed by Petitioner, which were not instituted by the Board, the Board also adopted for “consistency” the claim constructions that were applied in PGR2018–00023: (1) the claims did not exclude salts of maleic acid from forming when the free acid is mixed with an alkaline bleaching formulation, (2) “bleach powder” requires a dry particular composition (i.e., powder) comprising at least a persulfate and an alkali; and (3) “bleaching formulation” requires “a mixture of bleach powder and developer that provides a sufficiently alkaline pH so that the bleaching formulation, when mixed with the active agent formulation and applied to the hair, can remove color from and lighten the hair. (Paper 12, pp. 7, 9).

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salts after the free acid is mixed with a bleaching formulation.” (*L'Oréal USA, Inc.*

v. Liqwd, Inc., PGR2018–00023, Paper 9 (PTAB Aug. 10, 2018, p. 12).

IX. THE '954 PATENT CLAIMS ARE ENTITLED TO THE
MAY 16, 2014 PRIORITY DATE

90. The '954 patent issued from the '464 patent application (Ex. 1033), which was filed on January 25, 2017. (Ex. 1001, cover page, items (21) and (22)). The '954 patent claims entitlement to the earlier filing dates of a series of four related patent applications dating back to May 16, 2014: the '593 application (Ex. 1032), the '415 application (Ex. 1031), the '885 application (Ex. 1030), and the '709 application (Ex. 1020). (Ex. 1001, cover page, items (60) and (63)).

91. In the Petition (Paper 3), Petitioner does not argue that the '954 patent claims are not entitled to rely on an effective filing date of May 16, 2014 (the filing date of the '709 application), and instead states generally in a footnote that “Petitioner does not concede that the '954 patent claims are entitled to any claim of priority....” (Paper 3, p. 10 n.2).

92. Dr. Wickett (Petitioner's declarant) gives an opinion that claims 1, 5, and 6 of the '954 patent supposedly are not entitled to rely on an earlier application filing date because Dr. Wickett incorrectly concludes that the '954 patent and the earlier patent applications do not disclose the subject matter of these three claims. (Ex. 1012, ¶¶40–41). Dr. Wickett only identifies three features that he says were not disclosed in the earlier applications:

'954 Patent Claim	Feature
1	"about 0.1% by weight to about 50% by weight"
5	"about 0.1 wt % to about 5 wt %"
6	"about 0.1 wt % to about 3 wt %"

(Ex. 1012, ¶41 and ¶41 n.1). As explained below, I disagree with Dr. Wickett.

93. In section A below, I discuss disclosures in the patent applications that relate to features of claim 1, including "about" 0.1% by weight and "about" 50% by weight of the active agent in the mixture. In section B below, I discuss disclosures in the patent applications that relate to features of claims 5 and 6. I do not address other claims of the '954 patent, which were not addressed by Dr. Wickett.

94. Based on my analysis, my opinion is that each one of claims 1, 5, and 6 of the '954 patent is entitled to rely on a priority or effective filing date of May 16, 2014 (i.e., the filing date of the '709 application), because a POSITA would have understood that the '954 patent and the earlier applications describe these claims.

A. THE PRIORITY APPLICATIONS DISCLOSE THE SUBJECT MATTER OF CLAIM 1, INCLUDING "ABOUT" 0.1% BY WEIGHT AND "ABOUT" 50% BY WEIGHT OF THE ACTIVE AGENT IN THE MIXTURE

95. All of these applications, i.e. the '593 application (Ex. 1032), the '415 application (Ex. 1031), the '885 application (Ex. 1030), and the

'709 application (Ex. 1020). (Ex. 1001, cover page, items (60) and (63)), disclose the elements of claim 1, including (1) the “method for bleaching hair” recited in the introductory portion of the claim (see, e.g., Ex. 1020, p. 2, lines 22–26; Exs. 1030–1032, all in p. 4, lines 6–10; Ex. 1033, p. 4, lines 12–16); (2) mixing step (a) to form a “bleaching formulation” from “bleach powder and a developer” (see, e.g., Ex. 1020, p. 21, line 29–p. 22, line 1 and p. 31, lines 20–23; Exs. 1030–1032, all in p. 26, lines 25–27 and p. 36, lines 20–23; Ex. 1033, p. 26, line 29–p. 27, line 1 and p. 36, lines 20–23), (3) mixing step (b) to form a mixture from “the bleaching formulation” and “an active agent formulation” (see, e.g., Ex. 1020, p. 31, lines 23–24; Ex. 1030–1033, all in p. 36, lines 23–24), (4) “maleic acid” as the active agent (see, e.g., Ex. 1020, p. 12, lines 10–15 and p. 31, line 15; Exs. 1030–1033, all in p. 36, line 15), (5) mixture applying step (c) (see, e.g., Ex. 1020, p. 31, line 25–26; Exs. 1030–1033, all in p. 36, line 25–26), and (6) the active agent concentration ranges from about 0.1% by wt. to about 50% by wt. (see, e.g., Ex. 1020, p. 9, line 28–29 and p. 21, line 13–19; Exs. 1030–1032, all in p. 11, lines 17–18 and p. 26, lines 6–13; Ex. 1033, p. 11, lines 23–24 and p. 26, lines 10–17).

96. Dr. Wickett argues that the final portion of claim 1 (describing concentration ranges from “about 0.1% by weight to about 50% by weight”) is not adequately described in the earlier applications because of the use of the word

“about” in connection with the concentration range. (Ex. 1012, ¶40). I disagree. As Dr. Wickett acknowledges in part, the relevant text in column 16, lines 31–40 of the ’954 patent sets out concentrations of active agent in highlighting mixtures:

Typical concentrations of the active agent in the highlighting mixture range from small amounts, such as approximately at least 0.01% (by wt), preferably at least 0.1% (by wt), to large amounts, such as up to 50% (by wt). Preferably the highlighting mixture contains the active agent in a concentration ranging from 0.1% (by wt) to 5% (by wt), more preferably from 0.1% (by wt) to 3% ([by] wt). While greater concentrations of active agent could be present in the highlighting mixture, they are generally not needed to achieve the desired results.

97. The text shown above also appears in each of the earlier patent applications. (Ex. 1020, p. 21, lines 13–19;³ Ex. 1030–1032, p. 26, lines 6–13;

³ The text in Exhibit 1020 is not identical to the text quoted above, and refers to “% (wt)” instead of “% (by wt).” A POSITA would have understood this text to mean the same thing.

and Ex. 1033, p. 26, lines 10–17). I also note that Dr. Wickett omitted the final sentence of this text without explanation. (Ex. 1012, ¶40).

98. This text would have informed a POSITA that imprecise numerical limitations are being described. First, the passage says that “typical” active agent concentrations range from small amounts to large amounts. It then gives exemplary (“such as”) numerical values and describes them as being “approximate.”

99. Second, all of the exemplary numbers are written with only one significant figure. This reinforces the approximate nature of the numbers described in this passage. For example, writing the exemplary large amount as being “up to 50% (by wt),” informs the reader that the concentration value being reported are accurate only to the tens place. A POSITA would have understood this reference in the text to include concentrations greater than 50.0% (by wt) and less than 54.9% (by wt).

100. Third, the passage expressly tells a POSITA that lesser and greater concentrations of the active agent are permitted. “[A]pproximately” modifies at least the lowest endpoint, and thus “about 0.1 % by weight.” (Ex. 1020, p. 21, lines 14–15; Ex. 1030–1032, p. 26, lines 7–8; Ex. 1033, p. 26, lines 11–12). As to the upper endpoint, Dr. Wickett never acknowledges the last sentence in the paragraph, which clearly states that the highest endpoint is approximate. (Ex. 1001,

Col. 16, lines 37–40 (“greater concentrations...could be present”); Ex. 1020, p. 21, lines 18–19; Ex. 1030–1032, p. 26, lines 11–13; Ex. 1033, p. 26, lines 15–17).

101. Fourth, Dr. Wickett admits that the ’954 patent uses language reflecting imprecise amounts in column 7, lines 26–34, including the disclosure of “about 50 wt %” concentrations of the active agent in the formulation. (Ex. 1012, ¶40). The disclosure of active agent concentrations “to about 50 wt%” appears in each of the relevant applications. (Ex. 1020, p. 9, line 28–p. 10, line 2; Exs. 1030–1032, p. 11, lines 17–22; Ex. 1033, p. 11, lines 23–28). However, Dr. Wickett incorrectly dismisses this passage as relating only to active agent formulations. (Ex. 1012, ¶40). Such an interpretation is inconsistent with the ’954 patent.

102. The passage in column 7, lines 26–34 appears in Section “II. Formulations,” where the specification generally describes hair repair formulations. It teaches that “the formulations” treat hair to reduce or prevent hair damage during chemical treatments and that the formulations are intended to be “administered to an individual’s hair and/or human scalp.” (Ex. 1001, Col. 7, lines 11–13, Col. 7, lines 18–24; see also Ex. 1020, p. 9, lines 14–17, p. 9, lines 21–25; Exs. 1030–1032, p. 11, lines 2–6, p. 11, lines 10–14; Ex. 1033, p. 11, lines 8–12, p. 11, lines 16–20). This would have informed a POSITA that what is being described in Section II (including column 7, lines 26–34) includes

the composition or mixture that is applied to the person's hair (which could be either the claim 1 "mixture" or "an active agent formulation").

103. Within this section, the '954 patent describes both "hair repair formulations" (Ex. 1001 at Col. 15, line 8, Col. 15, lines 41–42, Col. 15, lines 59–60; Ex. 1020 at p. 19, lines 7–8, p. 20, line 2, p. 20, line 16; Exs. 1030–1032 at p. 23, lines 26–27, p. 24, line 22, p. 25, lines 6–7; Ex. 1033 at p. 23, lines 30–31, p. 24, line 26, p. 25, lines 10–11), as well as "liquid active agent formulations." (Ex. 1001, Col. 16, lines 12–26; Ex. 1020, p. 20, line 29–p. 21, line 9; Exs. 1030–1032, p. 25, line 23–p. 26, line 2; Ex. 1033, p. 25, line 27–p. 26, line 6).

104. The '954 patent also teaches that "the liquid active agent formulation" (i.e., the formulation mixed with the bleaching formulation to form the mixture in claim 1), "may contain any suitable concentration of active agent in a suitable carrier, typically a diluent." (Ex. 1001, Col. 16, lines 16–18; see also *id.* at Col. 21, lines 40–41; Col. 22, lines 45–47; Col. 24, lines 33–34 (each describing active agent formulations with an active agent and water)). This is under a subheading "v. Liquid Active Agent Formulations." (Ex. 1001, Col. 16, line 12). These disclosures also appear in the various patent applications. (Ex. 1020, p. 21, lines 3; p. 29, lines 25–26; p. 31, lines 15–16; p. 32, lines 23–24; Exs. 1030–1032, p. 25, lines 25–27; p. 34, lines 25–26; p. 36, lines 15–16; p. 39, lines 11–12; Ex. 1033, p. 25, lines 29–31; p. 34, lines 25–26; p. 36, lines 15–16; p. 39, lines 11–12).

105. Thus, a POSITA would have understood that the '954 patent describes concentrations of active agent in the mixture with the bleaching formulation to be imprecise, and that these active agent concentration ranges in the mixture also are described in the '464, '594, '415, '885, and '709 applications, and therefore the '954 patent claim 1 is entitled to rely on May 16, 2014 as its effective filing date.

B. THE PRIORITY APPLICATIONS DISCLOSE THE SUBJECT MATTER OF DEPENDENT CLAIMS 5 AND 6, INCLUDING “ABOUT” 0.1% BY WEIGHT AND “ABOUT” 5%/3% BY WEIGHT OF THE ACTIVE AGENT IN THE MIXTURE

106. Claims 5 and 6 are dependent claims of claim 1, and recite narrower active agent concentration ranges in the mixture of “about 0.1 wt% to about 5 wt%” and “about 0.1 wt% to about 3 wt%.” The lower limit of the concentration range in claims 5 and 6 is clearly described in the '954 patent and each of the earlier patent applications: “[a]pproximately at least...0.1% (by wt)” of active agent in the mixture is expressly described. (Ex. 1001, Col. 16, lines 31–34; Ex. 1020, p. 21, lines 13–15; Exs. 1030–1032, p. 26, lines 6–9; Ex. 1033, p. 26, lines 10–13).

107. The upper limits of the concentration ranges in claims 5 and 6 also are described in the '954 patent and each of the earlier patent applications. Preferred active agent concentration ranges in the highlighting mixture range up to 3% (by wt) or 5% (by wt). (Ex. 1001, Col. 16, lines 35–37; Ex. 1020, p. 21, lines 16–

17; Exs. 1030–1032, p. 26, lines 9–11; Ex. 1033, p. 26, lines 13–15). “[G]reater concentrations of the active agent could be present in the highlighting mixture.” (Ex. 1001, Col. 16, lines 37–40; see also *id.* at Col. 7, lines 32–34 (“about 3 wt %”); Ex. 1020, p. 21, lines 18–19 and p. 10, lines 1–2; Exs. 1030–1032, p. 26, lines 11–13 and p. 11, lines 20–22; Ex. 1033, p. 26, lines 15–16 and p. 11, lines 26–28).

108. A POSITA would have understood that the ’954 patent and the earlier patent applications describe the concentrations of the active agent in claims 5 and 6, and these claims entitled to rely on May 16, 2014 as their effective filing date.

X. FACTUAL ASSESSMENT OF PETITIONER’S APPLIED REFERENCES

109. I have reviewed in detail each of the five references applied in the Petition (Pratt, Tanabe, Berkemer, KR ’564, and Stone) and provide the following summaries of each.

A. PRATT (EX. 1009)

110. Pratt, applied for in 2009, describes an alkaline hair bleaching method that supposedly produces less noticeable bleach damage by including cationic material in a bleaching composition. (Ex. 1009, Abstract, ¶¶5, 6, and 8). Pratt is the only reference relied on in the Petition, which actually describes an alkaline hair bleaching method.

111. Pratt’s bleaching composition has three component parts (which are referred to as compositions (a), (b), and (c)). (Ex. 1009, Abstract, ¶6).

Composition (a) includes at least one compound with “bleaching effect.”

(Ex. 1009, Abstract). Composition (b) includes at least one oxidizing agent.

(Ex. 1009, Abstract). Composition (c) has particular cationic and/or cationizable compounds. (Ex. 1009, Abstract, ¶¶6, 39). Pratt contends that his composition (c) noticeably reduces hair damage during bleaching. (Ex. 1009, ¶¶5, 9).

112. The pH of composition (b) “is in the range of 2–7, preferably 2.5 to 6 and more preferably 2.5 to 5.” (Ex. 1009, ¶38). The pH of the composition (c)

“varies between 2 and 12, preferably 2.5–10, more preferably 3 to 8, most preferably 3 to 6 and in particular 3 to 5.” (Ex. 1009, ¶94). When these three compositions are mixed together to form the final bleaching composition applied to the hair, the resulting pH “is between 8 and 12.” (Ex. 1009, p. 14 (claim 12)).

A POSITA would have understood that in Pratt’s final bleaching mixture all three compositions (compositions (a), (b), and (c)) share the same pH, which is between 8 and 12.

113. Pratt explains that bleach damage is both unavoidable and difficult to repair afterwards. (Ex. 1009, ¶3). Pratt claims “the damaging effect of bleaching composition on hair is noticeably reduced” by use of his method. (Ex. 1009, ¶5). A POSITA would understand this is an assertion that Pratt’s method can be used to hide or mask bleach damage.

114. I agree with Petitioner’s declarant (Dr. Wickett) that “Pratt does not disclose an order for mixing compositions (a), (b), and (c).” (Ex. 1012, ¶53). Pratt forms a bleaching composition by combining together compositions (a), (b), and (c) “prior to application.” (Ex. 1009, ¶6; see also Ex. 1009, ¶8 (“prepared by mixing three compositions”) and ¶104 (compositions (a), (b), and (c) “were mixed” together). The mixing ratio of compositions (a), (b), and (c) is described as being “in the range of 4:8:0.1–4:8:1, preferably 4:6:0.2–4:6:0.75, more preferably 4:4:0.2–4:4:0.75.” (Ex. 1009, ¶95).

115. Dr. Wickett argues that a POSITA would have understood that the “third composition” is added after the first (a) and second (b) compositions have been mixed. (Ex. 1012, ¶53, citing Ex. 1009, Example 1). I disagree. If Dr. Wickett implies a mixing order by his characterizations of compositions (a), (b), and (c) as “first,” “second,” and “third,” Dr. Wickett overlooks the fact that the phrases “first” composition and “second” composition are never used in connection with Example 1. The text of Example 1 states that all three compositions “were mixed.” (Ex. 1009, ¶104). A POSITA would have understood that Pratt’s Example 1 discloses the mixing together of all three components, and nothing in Example 1 teaches that composition (a) and composition (b) are mixed together first, and then composition (c) is added to that pre-existing mixture.

116. I understand that Dr. Wickett also relies on paragraph 97 of Pratt for his implication that Pratt’s Example 1 teaches a specific order of mixing. (Ex. 1012, ¶53). Again, I disagree. That paragraph provides information about the pH range of “the ready to use product, a mixture of bleaching composition and oxidizing lotion.” (Ex. 1009, ¶97). A POSITA would have understood that the reference to a “ready to use product” in this paragraph merely gives information about a pH range of the mixture of the bleaching composition and the oxidizing lotion, which is consistent with conventional bleaching formulas. A POSITA would not have understood this paragraph to teach or disclose how

compositions (a), (b), and (c) are mixed in Example 1 or otherwise. Dr. Wickett also overlooks and does not address Pratt’s claim 12, which says “the ready to use aqueous bleaching composition” is formed “after mixing the three compositions.” Likewise, claim 14 says the aqueous bleaching composition is “prepared by mixing the three compositions.” (See also Ex. 1009, Abstract (“three parts which are mixed”) and ¶6 (same)). A POSITA would not have understood that Pratt discloses mixing composition (a) and composition (b) prior to the addition of composition (c).

117. Pratt discloses a broad set of possible choices for the cationic and other materials in composition (c). (Ex. 1009, ¶¶39–94). These materials may include cationic/cationizable compounds, such a cetyltrimethyl ammonium chloride (¶¶39–49), as well as water soluble silk protein or silk protein hydrolysate (¶¶51–52), hair conditioners such as non-ionics, oily substances, or cationic substances (¶¶53–58), additional proteins, and protein hydrolysates (¶¶59–60), emulsifiers such as fatty alcohols (¶¶61–62), surfactants (¶¶63–73), organic solvents (¶75), thickening agents, (¶76), ceramide-type compounds (¶77), polyol (¶78), diamides (¶¶79–82), ubiquinone-type compounds (¶83), UV filters (¶¶84–85), and direct dyes (¶¶86–93). More than a hundred exemplary cationic/cationizable compounds are identified in paragraph 46 alone.

118. A POSITA would have understood that Pratt includes cationic and cationizable materials in the bleaching composition to function as a hair conditioner. (Ex. 2022, p. 332 (“hair conditioners include “[c]ationic substances consisting of mono-functional quaternary ammonium compounds or amines or even polymeric quaternary ammonium compounds or amines”). These cationic materials are positively charged and ionically bind to bleach damaged hair, which tends to be negatively charged. (Ex. 2006, p. 3 (“Cationic agents (quaternary ammonium compounds) are positively charged, and they are attracted by the negative charge of damaged hair.”); Ex. 2022, pp. 347, 366–67, 369 (“the cationic part of conditioners binds to the hair surface by ionic bonds with the hydrophobic tails projecting into the air to provide a hydrophobic hair surface”); see also Ex. 1011, p. 7 (“Cationic surfactants have a positive charge and are strongly absorbed by the hair”) and Ex. 1011, p. 17 (“The formation of acid groups during oxidation promotes the adsorption of cationic compounds, which improve the feel and combability of the hair”). Cationic surfactants, such as cetrimonium chloride, were known to form a thin film on the hair and to improve the combability of bleach damaged hair, impart a smooth feel to the hair, and reduce “flyaway hair.” (Ex. 2022, pp. 368–69 (“low surface friction” and “to make hair comb easier”); Ex. 1011, p. 8 (“prevent tangling during combing and brushing of wet hair, and impart a pleasant, smooth feel to the hair after drying.”)).

119. The only mention of maleic acid in Pratt is buried within a long list of optional pH adjusters for composition (c). (Ex. 1009, ¶94). This long list of pH adjusters includes six different acids, monoethanolamine, triethanolamine, ammonia, the class of ammonia salts with acids (e.g., ammonium chloride, ammonium sulphate, ammonium carbonate, ammonium bicarbonate, and ammonium nitrate), the class of alkaline solutions (e.g., sodium hydroxide, and potassium hydroxide), and the class of salts made from alkaline solutions and known acids. (Ex. 1009, ¶94). A POSITA would have understood that this is a virtually infinite list. Pratt does not describe the concentration of any acid or any other pH adjuster in the final bleaching composition.

120. There is no teaching in Pratt that the optional pH adjuster in composition (c) serves any purpose other than to alter the pH of that composition, if necessary. Pratt does not teach that any of the disclosed pH adjusters serves to repair or prevent bleach damage.

121. A POSITA would have understood that Pratt uses acid in his composition (c) to facilitate solubilization of fatty amines, which are among his cationizable compounds. For example, the fatty amine materials identified in paragraph 46 (e.g., stearyl oxypropyl amine) are not soluble in water. By acidifying composition (c), the amine becomes protonated and thus soluble in water. However, there would be no need to include optional pH adjusters if the added

component is a permanently cationic (e.g., centrimonium chloride) and is already soluble in water. There is no teaching in Pratt that acid is suitable for any other uses or has any other function in the final bleaching composition.

122. Pratt’s Example 1 describes that a small amount of citric acid is added to the third composition. (Ex. 1009, ¶103). None of Pratt’s thirteen examples describes a composition (c) or any other composition as having maleic acid at any concentration. (Ex. 1009, ¶¶100–137).

123. In Example 1, two “dark” human hair tresses were bleached with Pratt’s so-called “Inventive Composition” and a “Comparative Composition,” respectively, for 40 minutes at 50 °C. (Ex. 1009, ¶¶104–106).

124. Comparative Composition is the same as the Inventive Composition prepared in Pratt’s Example 1, except that composition (c) having centrimonium chloride and a small amount of citric acid in water has been replaced with water alone. (Ex. 1009, ¶¶103, 105, 107).

125. Table 1 (reproduced below) purports to summarize results of using Pratt’s composition from Example 1:

Sample	L	a	b	ΔE	Cysteic acid content	
					(mol/100 mol)	(mol/100 mol) per level of lightening
Before Bleaching	18	1.5	1.0	--	0.7	--
Inventive Composition	55	11.0	33	51	4.90	0.083
Comparative Composition	55	12.0	33	50.5	5.42	0.094

(Ex. 1009, ¶107). In the table above “L” refers to the lightness of the hair, “a” refers to the red/green coordinate, and “b” refers to the yellow/blue coordinate.

126. ΔE is a measure of color change. (Ex. 2061, Wickett Tr. 191, lines 8–17). During his recent deposition, Petitioner’s declaration (Dr. Wickett) expressed his opinion that the ΔE values reported in Pratt using the following CIE 1976 formula:

$$\Delta E = \sqrt{(L_2 - L_1)^2 + (a_2 - a_1)^2 + (b - b_1)^2} \quad (6)$$

(Ex. 2061, Wickett Tr. 191, line 8–Tr. 192, line 6 and Tr. 194, line 6–Tr. 195, line 16). Applying that formula, I calculate that the ΔE value for the Inventive Composition is 49.8, and the ΔE value for the Comparative Composition is 50.0. These values are different than what is reported in Pratt’s Table 1, and show that

the Comparative Composition —not the Inventive Composition — was more effective at bleaching the hair.

127. I am aware that various modifications of that formula have been proposed, including CIE 1994 (Graphic Arts), CIE 1994 (Textiles), CIE 2000, CMC 1.1, and CMC 2.1. Using an online calculator available at the website below, I confirmed that none of these formulas provides ΔE values matching those which Pratt reports.

<http://www.bruceindbloom.com/index.html?ColorDifferenceCalc.html>

128. For convenience, I reproduce below the results that I obtained:

Formula	Inventive Composition	Comparative Composition
CIE 1994 (graphic arts)	48.2	48.4
CIE 1994 (textiles)	34.9	36.1
CIE 2000	36.3	36.4
CMC 1.1	79.7	79.9
CMC 2.1	55.5	55.8

129. A POSITA would have been concerned that Pratt's only data table contains erroneous data, especially since the correct data shows Pratt's Inventive

Composition performs poorly (less effective at bleaching the hair as measured by ΔE) than the Comparative Composition.

130. I appreciate that Pratt also claims the cysteic acid content of hair bleached with the inventive composition “is clearly and significantly lower” than the Comparative Composition. (Ex. 1009, ¶108). However, a POSITA would have regarded that claim with a high degree of skepticism because Pratt does not provide sufficient information to support it. Table 1 does not provide information regarding the experimental error of cysteic acid content numbers provided.

131. Also, a POSITA would have understood that cysteic acid testing is a destructive test, and therefore different hair samples would be required for the “Before bleaching,” “Inventive Composition,” and “Comparative Composition” reported in Pratt’s Table 1. (Ex. 2061, Wickett Tr. 198, line 10–Tr. 199, line 2). This is significant because cysteic acid content in human hair is highly variable. In unaltered human hair, cysteic acid content has been shown to vary from 22–40 micromoles/gram of dry hair. (Ex. 1046, p. 112 (describing “[s]ignificant differences [in cysteic acid] indicated among samples analyzed”); see also Ex. 2055, p. 479 (cysteic acid content in human hair ranges between 10–58 micromoles/gram of dry hair); and Ex. 2060, pp. 286–87 (“there is considerable variation in the amino-acid composition of human hair”; reporting cysteic acid content in human hair varies between 10–59 micromoles/gram of dry hair);

Ex. 2009, p. 561 (describing significant variation in cysteic acid within single strand of hair between distal and proximal ends). A POSITA would also have been aware that the procedures employed in conducting the test can introduce further error into the cysteic acid measurements. A POSITA would have understood that a reported variation in cysteic acid content of just 0.52% could be the result of variation in the hair making up the tresses that were tested, or could be the result of improper experimental procedure.

132. Pratt’s Table 1 also reports a normalized cysteic acid number “per level of lightening.” Dr. Wickett speculated that this number was obtained by dividing the cysteic acid percentages (mol/100 mol) by the ΔE reported in the same row. (Ex. 2061, Wickett Tr. 199, line 15–Tr. 200, line 18). However, dividing the reported cysteic acid content by the correct ΔE values from Pratt’s Table 1 does not result in the reported numbers.

133. Other than the Table 1 data, Pratt reports that hair treated with his inventive compositions had improved combability, better shine, softer feel, and had better elasticity when his three-part bleaching composition was used. (Ex. 1009, ¶¶115, 122, 127, 128, and 138).

134. In summary, Pratt does not describe mixing maleic acid with a bleaching formulation formed from developer and bleach powder. Pratt also does

not provide a specific concentration range for maleic acid when used in hair bleaching methods.

B. TANABE (EX. 1007)

135. Tanabe, applied for in 1999, describes an acidic (low pH) hair cosmetic composition intended to improve optical or mechanical properties of already damaged hair, and does not describe hair bleaching methods at all. (Ex. 1007, Abstract, and Col. 3, lines 38–43 (applying conditioners to hair that is already permed and bleached)). Tanabe’s acidic compositions have pH 2–6. (Ex. 1007, Col. 3, lines 28–30). Tanabe does not disclose adding his acidic hair cosmetic compositions into bleaching mixtures, which a POSITA would have understood have significantly higher pHs. Instead, Tanabe treats already damaged hair. For example, Tanabe uses hair samples that were double processed (previously bleached and permed) to test his acidic conditioners. (Ex. 1007, Col. 3, line 42).

136. Tanabe’s compositions include at least three ingredients: (A) glycine, alanine, or combinations thereof, (B) an acid, and (C) a cationic surfactant. (Ex. 1007, Col. 1, line 42–45). Component (A) is “added preferably in a proportion from 0.01–20 wt %.” (Ex. 1007, Col. 1, lines 52–53).

137. Tanabe links the amount of glycine or alanine to “imparting color deepness to hair.” (Ex. 1007, Col. 1, lines 52–57). A POSITA would have

understood that Tanabe uses these ingredients in his hair cosmetic compositions as buffers to ensure acidic pH below the isoelectric point of hair. (Ex. 1004, p. 4, lines 8–12 (“glycocoll” or glycine added to conditioner as a “buffer substance[]” to maintain acidic pH); Ex. 2017, p. 3 (referring to glycocoll as “glycine”); Ex. 2018, p. 4 (same)). Glycine and alanine buffer at acidic pHs around the first pKa values of these amino acids, which are 2.35 and 2.34, respectively. (Ex. 2065, pp. 7–8). The isoelectric point of hair is less than about 4. (Ex. 2022, pp. 368, 369, 388). Negative charge builds up on the surface of the hair fibers when hair is exposed to a pH greater than the isoelectric point of hair, while positive charge builds up on the fiber surface when hair is exposed to a pH less than the isoelectric point of hair. (Ex. 2022, pp. 368, 369, 388).

138. In Table 1, Tanabe’s Invention Product 6 and Comparative Product 3 include the same components, except that Invention Product 6 includes 2 wt% glycine and has pH 3.3. (Ex. 1007, Table 1). Comparative Product 3 without glycine had pH 5.0. (Ex. 1007, Table 1). A POSITA would have understood that at lower pH values, Tanabe’s component (C) (the cationic surfactant) in Tanabe’s Invention Products would be expected to be less attracted to the hair fibers, and therefore that component is not responsible for the performance reported in Table 1. A POSITA also would have concluded that the performance reported in Table 1 is largely dependent on Tanabe’s component (B) (i.e., the acid) and its

ability to donate acidic protons. As illustrated in paragraphs 72 and 144, maleic, malic, and succinic acid have a greater ability to donate acidic protons at pH 3.3 than at pH 5.0 or 5.5. The fully deprotonated form of maleic acid, which exists at pH 8–12, has no acidic protons to donate.

139. A large number of acids are usable as Tanabe’s component (B), including (a) α -hydroxy acids, (b) β -hydroxy acids, (c) 1,2-dicarboxylic acids, (d) 1,3-dicarboxylic acids, and (e) aromatic carboxylic acids. (Ex. 1007, Col. 1, line 58–Col. 2, line 3). Tanabe provides fourteen illustrative α -hydroxy acids and β -hydroxy acids, four dicarboxylic acids, and three aromatic carboxylic acids. (Ex. 1007, Col. 1, line 58–Col. 2, line 3). While Tanabe says that malic acid, succinic acid, and maleic acid are “particularly preferred” acids, Tanabe does not explain why. (Ex. 1007, Col. 2, lines 5–6; see also Ex. 1007, Col. 7, line 1–7 and Col. 8, lines 1–6). From reading Tanabe, a POSITA would understand that the particular benefits provided by these three acids could be provided by a myriad of other acids, not the least of which is citric acid as used in Pratt’s examples. (Ex. 2056, p. 157 (describing “[t]reatment of bleached hair with solutions of carboxylic acids [to] restore[] the initial fatigue resistance of hair” and development of “restoring shampoos formulated with a substantial amount of an α -hydroxyacid, e.g., citric acid, or fruit acid, their pH being adjusted at 5.”);

Ex. 2062, p. 445 (reporting that a 4 wt% citric acid solution provided significant strengthening effect after bleaching); see also Ex. 1006, p. 4 (¶2) (“wide range” of “mild acid” can be used to treat already damaged hair)).

140. Tanabe teaches that the final hair cosmetic composition has an acidic pH, “preferably” not higher than “the pKa of the α -hydroxy acid (B) employed, and may range specifically from 2–6.” (Ex. 1007, Col. 3, lines 26–30). The “Invention Products” and “Comparative Products” in Tanabe’s Table 1 have pH values of 3.3, 5.0, or 5.5. (Ex. 1007, Table 1). This indicates that a protonated form of the acid is required. The amount of acid in Tanabe’s conditioner ranges from 0.01–5 wt%, which he says is “from the standpoint of imparting transparency to hair.” (Ex. 1007, Col. 2, lines 7–11; Col. 7, lines 35–38; Col. 8, lines 34–36).

141. Importantly, the low pH Invention Products performed far better than the higher-pH Comparative Products. Tanabe teaches that his Invention Products provide benefit at pH 3.3, while his Comparative Products do not provide such a benefit at pH 5.0 or 5.5. Taken together, a POSITA would have understood that Tanabe shows lower pH provided better conditioning properties than a higher pH.

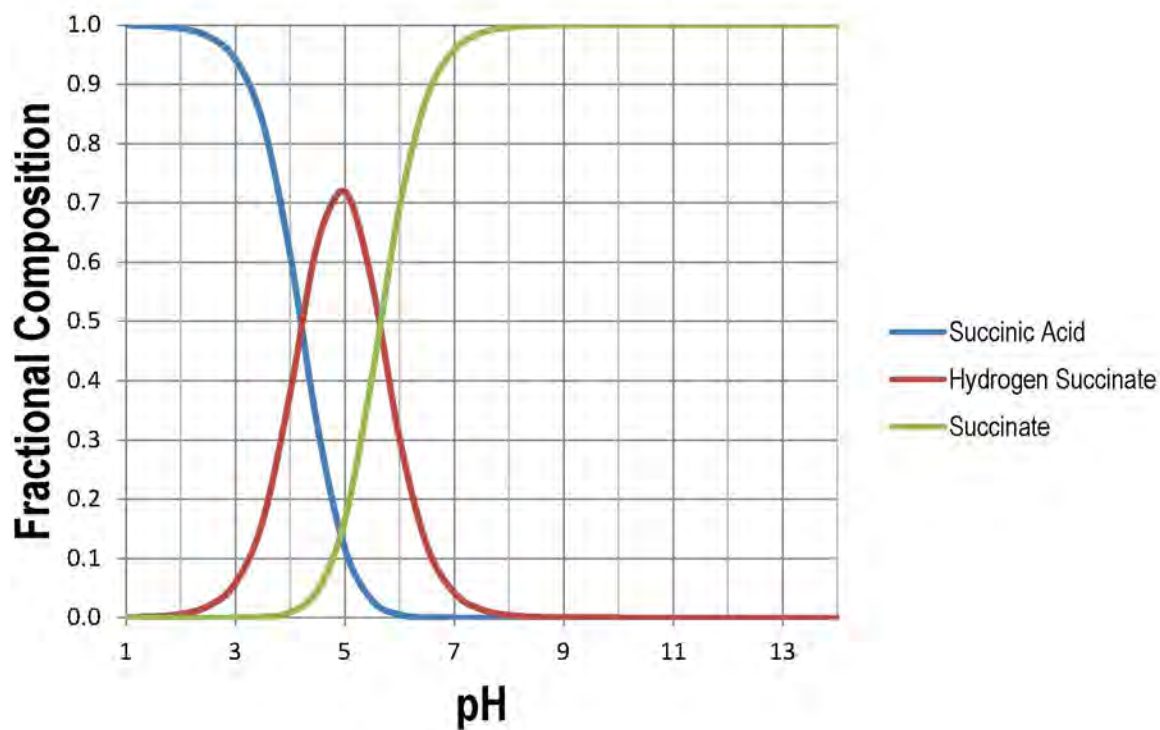
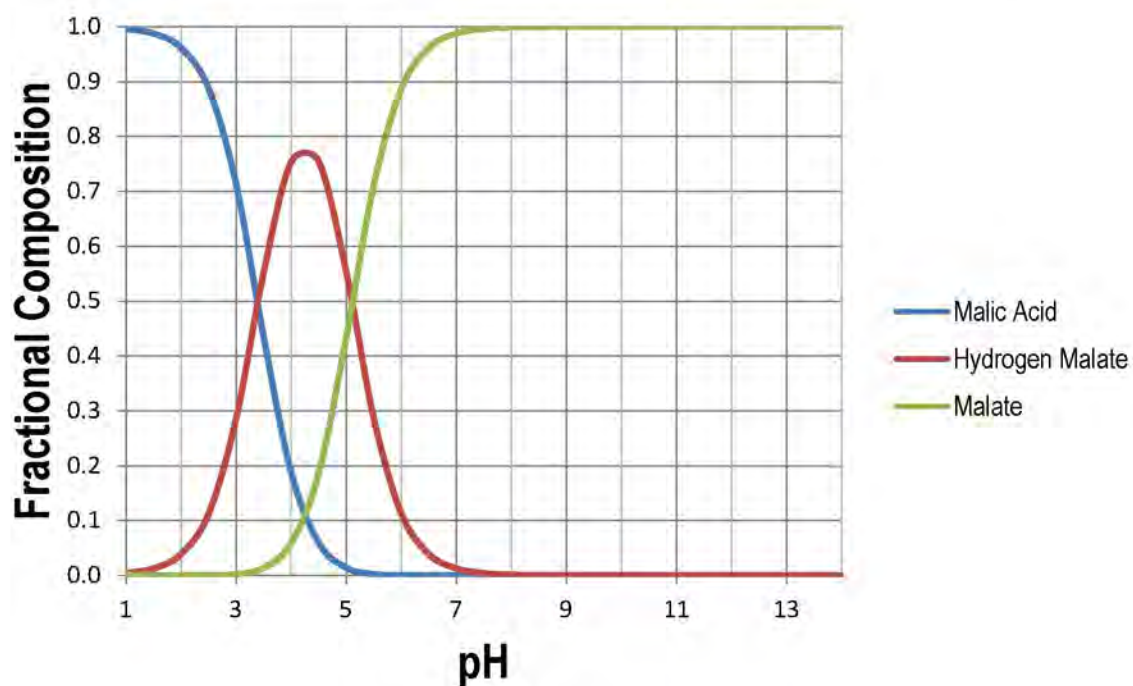
142. Also, Tanabe’s description of his component (B) is strictly limited to the use of acid; the use of salts or other pH adjusters is not taught. (Ex. 1007, Col. 1, line 58–Col. 2, line 12). A POSITA would have understood a purpose of

including acid in Tanabe’s hair cosmetic composition was to decrease pH to 6 and below.

143. Tanabe’s hair cosmetic compositions can be used as a “hair rinse, conditioner, treatment, hair cream, hair pack, or the like.” (Ex. 1007, Col.3, lines 32–35). Tanabe does not mention bleach powder, developer, or hydrogen peroxide. Tanabe does not claim or propose that any benefits from using his hair cosmetic compositions would actually occur if they were added into a reactive, highly alkaline bleaching mixture.

144. Tanabe’s examples use only three acids (malic acid, maleic acid, and succinic acid) and only in the small concentration of 0.5 wt%. Applying the analysis in paragraph 72, I have prepared graphs estimating the fraction of various forms of malic and succinic acid:

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Malic acid has two pK_a values (3.4 and 5.1). (Ex. 2065, p. 8). Succinic acid has two pK_a values (4.2 and 5.6). (Ex. 2065, p. 8). Paragraph 72 (above) shows a similar graph for maleic acid. A POSITA would have understood that Tanabe's three preferred acids (maleic, malic, and succinic acids) are each capable of donating acidic protons at pH 2–6.

145. Maleic acid is used in just one composition (Invention Product 5 of Example 1), and it left the hair with poor body. (Ex. 1007, Table 1, Col. 5, lines 28–31). The only “Invention Product” formulation tested that left hair with good body was Invention Product 7, which used malic acid. (Ex. 1007, Table 1). Further, the only formulations tested in Examples 3–5 contained malic acid. (Ex. 1007, Col. 5, line 51–Col. 6, line 60).

146. Tanabe says his hair cosmetic compositions improve the optical or mechanical properties of hair (e.g., luster, softness, body). (Ex. 1007, Abstract; Col. 1, lines 5–14). A POSITA would have understood that by “mechanical properties” Tanabe means manageability, touch, softness/body, silky feel, non-greasy feel evaluated organoleptically, and not tensile properties or any other properties evaluated instrumentally. (Ex. 1007, Col. 1, lines 12–13 (“mechanical properties of hair, such as...softness, body, and the like.”); Col. 3, lines 52 (“organoleptically ranked”); Col. 3, line 40 (“softness/body, manageability, and touch of hair”); Col. 5, lines 29–30 (“softening/body, hair manageability, and

touch”); Col. 5, lines 32 (“nongreasiness”); Col. 5, lines 37–42 (how to evaluate “nongreasiness of hair”); Col. 5, line 49 (“nongreasiness”); Col. 6, lines 59–60 (“softness and body to hair, and also improved the manageability of hair”); Col. 6, lines 66–67 (“impart softness and body to hair, so that the manageability of hair is improved”); and Table 1).

147. A POSITA also would have understood that by “optical” properties of hair Tanabe means external appearance of the hair, luster, or shine. (Ex. 1007, Col. 1, line 13 (“optical...properties of hair, such as luster”); Col. 4, lines 1–8 (how to evaluate “external appearance of hair”); Col. 5, lines 28–29 (“external appearance of hair”); Col. 6, line 59 (“good luster”); Col. 6, line 65 (“color deepness, transparency, and shiny luster”); and Table 1).

148. Tanabe’s Table 1 supposedly shows improved optical/mechanical properties of hair (a. external appearance, b. softening/body, c. hair manageability, d. touch).

149. A POSITA would have understood that the benefits described in Tanabe require an acidic conditioning composition that causes the hair fiber to contract and makes the cuticle smoother. For example, external appearance of hair fibers improves when exposed to the low pH of the conditioner, which is known to smooth hair fiber surfaces. (Ex. 1004, p. 2, line 34–p. 3, line 5 (dilute acid after-treatment solutions have “surface-smoothing action” and “improve the light

reflection” of damaged hair); Ex. 1006, p. 2 (¶2) (“mild acid” conditioning after-treatment provides hair with “greater shine” and “smoothness,” and “mak[es] hair glossier”); Ex. 2006, p. 433 (“Smooth hair cuticles reflect more light, resulting in glossier hair”)).

150. A POSITA also would have understood that Tanabe’s claimed improvements in softening/body and touch/feel result from low pH of the conditioner, which smooths the hair fiber surface and makes hair feel softer and silkier to the touch. (Ex. 1006, p. 2 (¶2) (“mild acid” conditioning after-treatment provides hair with greater “elasticity”); Ex. 1011, p. 17 (acidic conditioners neutralize alkali residues and reverse hair swelling); Ex. 2006, p. 433 (smooth hair cuticles “result in softer hair”); Ex. 2056, p. 157 (acid rinse returns “hair pH” back to a normal level and prevents elimination of amino acids and oligoproteins)).

151. Likewise, a POSITA would have understood that improved manageability results from the ability of the low pH of the acidic conditioner to counteract or neutralize negative charge on the hair fiber surface. (Ex. 1006, p. 2 (¶2) (“mild acid” conditioning after-treatment “facilitat[es] the production and maintenance of styling”); Ex. 1011, p. 8 (conditioning agents “reduce static charge, which causes ‘flyaway hair’”)). A POSITA would have understood that each of the above benefits would require inclusion of a protonated acid and would not be provided by inclusion of a fully deprotonated form of the acid.

C. BERKEMER (EX. 1004)

152. Berkemer, applied for in 1964, relates to a specific acidic hair treatment method of applying an acidic maleic acid conditioner to already damaged hair, and does not describe hair bleaching methods at all. (Ex. 2020, p. 14 (“[Berkemer] does not teach mixing maleic acid with a bleaching composition”); Ex. 1012, ¶148 (Berkemer discloses treating hair that “has been structurally damaged” by bleaching and other chemical treatments) and ¶154 (Berkemer is for “use after a bleaching process”)).

153. Berkemer does not mention bleach powder, developer, or hydrogen peroxide. Berkemer does not disclose how much acidic conditioner should be added to bleaching formulations made from mixtures of bleach powder and developer. Berkemer does not disclose that the described acidic conditioner or the disclosed application method provide any benefit in the higher pH environment of alkaline bleaching.

154. Chemical hair treatments (perming, bleaching, and coloring) can leave hair fiber surfaces rough. (Ex. 1004, p. 2, lines 24–32, p. 3, lines 7–10). Alkali, which is used in such chemical treatments to raise pH and to swell hair fibers, must be removed or neutralized once the treatment has finished. (Ex. 1006, p. 3 (¶15); Ex. 1011, p. 17 (“If the conditioner is adjusted to an acidic pH, alkali residues are neutralized and the hair swelling is reversed.”); Ex. 1012, ¶21 (“Bleaching is

typically carried out under alkaline conditions”); Ex. 2021, ¶15 (same)). If the alkali is not removed or neutralized, the hair fibers may remain swollen with cuticles (outer surface) lifted, which creates a rough hair surface that is prone to damage. (Ex. 1004, p. 2, lines 29–32 (bleaching causes “opening of the hair cuticles” which results in disappearance of “natural gloss” and “the hair becomes lusterless and dull”); Ex. 1006, p. 3 (¶13) (to prevent further hair damage and decrease its progression “it is necessary to neutralize and remove the alkali agents to prevent expansion of the hair”)).

155. Earlier acidic treatments (e.g., tannic acid, lactic acid, or citric acid) smoothed damaged hair fiber surfaces by neutralizing and removing residual alkali, which Berkemer calls an “astringent” effect. (Ex. 1004, p. 2, line 34–p. 3, line 5). The astringent effect was “particularly high” when the acids adhered to or remained on the hair surface. (Ex. 1004, p. 3, lines 3–5).

156. Berkemer proposes a leave-on treatment method using a solution with acidic pH (1.9–4.0) to smooth previously damaged hair fiber surfaces. (Ex. 1004, p. 3, lines 7–15, p. 4, lines 8–12; Examples 1–3; Ex. 1012, ¶149 (“Berkemer’s examples are leave-in products”)). These post-treatments may include maleic acid or its substitution products and other ingredients such as acidic buffer substances (glycine) “to facilitate attachment of the unsaturated acids to the keratin substances.” (Ex. 1004, p. 3, lines 12–17, p. 4, lines 4–21, p. 4, lines 34–37).

After the acidic treatment solution is applied, the hair is dried at 40 °C under a hair dryer “with the solution remaining in the hair.” (Ex. 1004, p. 4, lines 37–39). The treatment solution is not rinsed off of the hair.

157. Berkemer does not explain what specific “structural improvement” occurs when this method is used, and it could simply be the same smoothing effect already provided by earlier acidic neutralizing treatments. (Ex. 1004, p. 2, line 36–p. 3, line 5 (tannic acid, lactic acid, and citric acid provide “particularly high” surface-smoothing action when they remain on the hair); Ex. 1006, p. 7 (¶3) (mild acid treatment uniformly aligns the cuticle and provides “gloss and shine” and smooth feel); Ex. 1011, p. 17 (acidic conditioners neutralize alkali residues and reverse hair swelling); Ex. 2057, Nandagiri Tr. 138, line 9–Tr. 140, line 21 (admitting various acids achieve structural improvement of the hair surface, cuticle smoothing) and Tr. 147, line 18–Tr. 148, line 2 (“structural improvement” claimed by Berkemer could be the same surface-smoothing action that results from other dilute acid solutions)).

158. Berkemer has no comparative data showing that any special benefit results from using maleic acid in his method instead of any other acid.

159. A POSITA would have understood that Berkemer’s acidic conditioner functions by neutralizing alkali (driving the pH down), which causes the cuticle to be smoothed. (Ex. 1004, p. 3, lines 7–10; p. 3, lines 35–37; Ex. 1011, p. 17 (acidic

conditioners neutralize alkali residues and reverse hair swelling)). A POSITA would have understood that this same effect would have been provided by many other acids but only in acidic environments. (See also Ex. 1004, p. 2, line 34–p. 3, line 5 (describing how tannic, lactic, and citric acids provide “particularly high” surface smoothing “when they remain adhering to the hair surface”); Ex. 2057, Nandagiri Tr. 147, line 18–Tr. 148, line 2)). A POSITA would have understood that acids can smooth previously swollen hair fiber surfaces by neutralizing sufficient alkali to drive the pH below 5. (Ex. 1006, p. 3 (¶16) (“hair converges at a pH of 4–5, when the pH is 2.7 or less hydrolysis of the hair begins”)). To do so, the acid applied to the hair in Berkemer must be protonated so that it can donate an acidic proton to the alkali in a reaction known as neutralization.

160. Berkemer stresses that the surface smoothing effect of dilute acid solutions is improved “when they remain adhering to the hair surface.” (Ex. 1004, p. 3, lines 3–5). In his novel method, Berkemer teaches to include a surfactant to improve hair wetting (Ex. 1004, p. 4, lines 4–6), to include an acidic buffer substance to maintain the pH at or below the isoelectric point of hair (Ex. 1004, p. 4, lines 8–12), to include an emulsifier to thicken the solution and allow it to remain in the hair (Ex. 1004, p. 4, lines 14–17), and to include “sugar substances,” which he says improve mechanical properties of the hair. (Ex. 1004, p. 4, lines 19–21).

161. Each of Berkemer’s examples includes these components and further employs the unique step of actually drying the acidic conditioner treatment into the hair. (Ex. 1004, p. 4, lines 37–39). Because dilute acid rinses were known, even in 1964 (Ex. 1004, p. 2, line 34–p. 3, line 5), a POSITA would have understood that Berkemer’s supposed contribution was the specific method employed to allow the treatment to remain adhering in the hair.

162. Importantly, a POSITA would not have expected Berkemer’s acidic hair treatment method to provide a benefit in the context of hair bleaching with developer and bleach powder. Hair bleaching requires an alkaline (high) pH. (Ex. 2005, p. 6 (bleaching requires “a final pH around 10”)). If acid were added into the bleaching mixture in a sufficient quantity to maintain the pH below 4.0 then that would prevent bleaching. (Ex. 2005, p. 6 (“bleaching markedly decreases with decreasing pH”)). If the quantity of acid were insufficient to maintain the pH below 4.0 then the astringent action that causes the surface of the hair fibers to become smooth would not occur. Further, hair bleaching formulations made from bleach powder and developer are extremely damaging to the hair in part because the chemistry that they employ requires alkali (pH 9–11), and cannot remain adhering in the hair and must be rinsed from the hair after 1–2 hours at most. (Ex. 1011, p. 17 (“left to work for up to 60 min”); Ex. 1012, ¶21; Ex. 2005, p. 6).

163. Berkemer expresses a theory involving a mechanism in which his conditioner is actually forming bonds with amino acid and hydroxyl groups in hair. (Ex. 1004, p. 3, lines 23–28). A POSITA would have been highly skeptical of this theory, because Berkemer’s examples show that would not happen.

164. Each example has a treatment solution formulated with chemical(s) having amine groups (glycocoll or glycine) and hydroxyl groups (water, glycerol, sugars). (Ex. 1004, pp. 3, 34–37). If the mechanism proposed in Berkemer were actually operative; then the maleic acid/substitution products would have reacted with the amino acid and hydroxyl groups in the treatment solution long before it was applied to the hair. This would render the maleic acid entirely unavailable to react with hair when the treatment solution is later applied to the hair. Accordingly, a POSITA would have understood that Berkemer’s proposed mechanism of bonding to amino acids and hydroxyl groups in hair, if it were possible, would have occurred in the liquid treatment solution before it was applied to the hair, and cannot be contributing to the proposed benefits.

165. Berkemer also expresses a theory that leaving unsaturated compounds, such as maleic acid, in the hair counteracts harmful post-oxidation by reacting with peroxides to form oxyacids or peroxyacids after bleaching has finished and provides an astringent effect. (Ex. 1004, p. 3, lines 30–37). A POSITA would have known that converting peroxides to oxyacids or peroxyacids

in this manner would decrease the amount of peroxide that is available to bleach the hair and thus would hamper or stop hair bleaching. (Ex. 1006, p. 3 (¶7) (bleaching “conducted by the synergistic effects of hydrogen peroxide and alkaline agent”); Ex. 1011, pp. 16, 17). A POSITA also would have wanted to avoid using an agent to consume peroxide in an alkaline bleaching mixture. A POSITA would have known to apply such an agent after the bleaching process had been completed.

166. Berkemer lacks information about appropriate maleic acid concentrations for use in a hair bleaching mixture. While the Berkemer acidic, leave-on treatment solution is said to contain 0.3–4% maleic acid or substitution products, (Ex. 1004, p. 3, lines 15–17, p. 6, lines 10–12), those disclosures do not provide information on the concentration of maleic acid that would be used in a mixture with a bleaching formulation made from developer and bleach powder.

167. The Patent Examiner confirmed that Berkemer is not pertinent to the ’954 patent claims (which are methods for bleaching hair). During prosecution of the application that issued as the related ’419 patent, the Examiner said: “since [Berkemer] does not teach mixing maleic acid with a bleaching composition, it does not appear to disclose the instantly claimed invention.” (Ex. 2020, p. 14). “[Berkemer] was not directed to a method of bleaching hair; thus it would not render the instant claims obvious.” (Ex. 2020, p. 14).

168. The Examiner also rejected the very same arguments, confirming that Berkemer does not express a preference for maleic acid:

[I]t is not taught [in Berkemer] that maleic acid is better than lactic or citric acid. The reference states that the surface smoothing effect of those astringent substances is especially great.

(Ex. 2020, p. 14).

D. KR '564 (Ex. 1006)

169. KR '564, applied for in 2004, describes an acidic conditioner made of a dilute acid solution with pH 4–5 that neutralizes and removes alkali residues left over from prior chemical hair treatments and which it intends to “maintain” the isoelectric point of hair. (Ex. 1006, p. 2 (¶2), p. 3 (¶¶16, 19), p. 4 (¶9)). The isoelectric point of hair is less than about 4. (Ex. 2022, pp. 368, 369, 388). Nothing in KR '564 teaches mixing the acidic hair treatment rinse with alkaline bleaching formulations formed from bleach powder and developer.

170. The acidic treatment of KR '564 is said to cause the hair to “converge[]” or de-swell. (Ex. 1006, p. 3 (¶16)). Acidic treatment after-the-fact (such as after permanent wave or hair dye chemical services) helps “return the hair to its original condition,” and avoids problems caused when alkali remains in the hair (e.g., severe swelling, softening, and damage). (Ex. 1006, p. 3 (¶19));

Ex. 1011, p. 17 (“If the conditioner is adjusted to an acidic pH, alkali residues are neutralized and the hair swelling is reversed.”); Ex. 2056, p. 157 (acid rinse returns “hair pH” back to a normal level, and in already bleach hair prevents elimination of amino acids and oligoproteins and restores initial fatigue resistance); Ex. 2062, p. 445).

171. KR ’564 describes experiments where acid is diluted with water to a pH 4–5 and the solutions were sprayed onto already damaged hair. A POSITA would have known that minute amounts of lactic acid (on the order of 0.002 wt.%) can achieve a pH of 4, given its molecular weight of 90.078 g/mole and pK_{a1} value of 3.86 (corresponding with an acid dissociation constant value of 1.38×10^{-4}). (Ex. 2065, pp. 6, 8). This is well below the lower concentration range in claim 1 of the ’954 patent.

172. None of the examples of KR ’564 teaches to mix mild acids (including maleic acid specifically) with an alkaline bleaching formulation made from developer and bleach powder or even to use the mild acid treatment during alkaline hair bleaching.

173. According to KR ’564, lactic acid is preferred because it provides at least four benefits over other acids. First, “lactic acid has the best stability.” (Ex. 1006, p. 7 (¶5)). Second, the pH of a lactic acid solution “can be reduced by even a small amount more than with other acid types.” (Ex. 1006, p. 7 (¶5)). Third,

the pH of the lactic acid solution “can be preserved for a long time (2–3 years).” (Ex. 1006, p. 7 (¶5)). Fourth, the lactic acid treatment of KR ’564 “exhibits particularly excellent effects.” (Ex. 1006, p. 7 (¶5)).

174. KR ’564 expresses no preference for maleic acid in any context and has no data showing any benefit resulting from the use of maleic acid.

175. The teaching by KR ’564 that a pH below 5 is necessary to de-swell or converge the hair, (Ex. 1006, p. 3 (¶16)), would have led a POSITA to conclude that its disclosures would not be useful with alkaline hair bleaching methods using bleach powder and developer. A POSITA would have understood that the goals of KR ’564 were two-fold: (a) neutralizing alkali and (b) smoothing the cuticle or de-swelling the hair. To do so, the acid applied to the hair must be protonated so that it can donate an acidic proton to the alkali and neutralize it. However, a POSITA would have known that these two goals cannot occur simultaneously with bleaching. Bleaching requires the presence of alkali both to achieve an alkaline pH and to swell of the hair fibers. (See, e.g., Ex. 1010, Col. 1, lines 46–49 (insufficient bleaching power below pH 8.5); Ex. 1039, Borish Tr. 50, lines 14–18 (“To bleach hair generally requires a pH of 9 to 11, usually practiced 10 to 11.”); Ex. 2005, p. 6 (pH around 10); Ex. 2007, p. 2 (pH “generally from 9 to 11”); Ex. 2008, ¶42 (“pH of greater acidity than 9.0 will tend to give a poor bleaching

effect.”)). A POSITA also would have known that in the pH range from 9–11, maleic acid would exist in its fully deprotonated form. See ¶72 (above).

176. KR ’564 contains the following sentence on page 4:

“In addition to being used alone as a treatment agent, the hair treatment agent according to the present invention may be preliminarily added to a permanent wave agent, dyeing agent, and the like as an additive for various hair treatment solvents.”

177. This sentence does not mention bleaching at all. A POSITA would have understood that omission was intentional because KR ’564 was describing the use of the mild acid treatment in particular chemical processes that do not require alkaline pH.

178. Permanent waving involves two distinct chemical processes:

(a) a reduction step where disulfide bonds in hair are intentionally broken, and
(b) a neutralization step where the previously reduced disulfide bonds are reformed to give the hair a desired shape. (Ex. 2006, p. 2). A POSITA would have known that a mild acid treatment agent (such as suggested by KR ’564) could be included in step 2 (the neutralization step) without adversely impacting its chemistry. (Ex. 1011, p. 26 (hydrogen peroxide neutralizers are at pH 2.0–4.5; Ex. 2061,

Wickett Tr. 214, line 9–Tr. 216, line 7 (“I would – would put it with the neutralizer” which is at an acidic pH)).

179. Similarly, a POSITA would have understood that a mild acid treatment agent (such as suggested by KR ’564) could have been successfully used with certain hair dyeing processes, which do not require highly alkaline pH or oxidation reactions. For example, temporary hair coloring involves large molecules that are temporarily deposited on the outer surface of hair fibers. (Ex. 2005, p. 18; Ex. 2006, p. 4). Because penetration of the dye inside of the hair fiber is not required, temporary hair coloring is performed without requirements for alkali or oxidants. (Ex. 2005, p. 18 (“Coloration [by temporary colorants] occurs by deposition of disperse or acid dyes on the surface of the hair”); Ex. 2060, p. 290 (same)).

180. Likewise, demi-permanent hair coloring can be done at an acidic pH. (Ex. 2058, p. 3 (demi-permanent hair color “can be formulated without ammonia for no lift” and “processes at an acidic pH without lift”); see also Ex. 2059, pp. 24–25 (demi-permanent hair color is referred to as “no-lift” and uses “same [oxidative] dye precursors and a some-what lower hydrogen peroxide concentration (1–2% in the mixed product)”)).

181. Dr. Wickett contends (Ex. 1012, ¶155) that a POSITA would have understood the phrase “and the like” in the paragraph quoted above in my

paragraph 176 “to include bleaching.” I disagree. Dr. Wickett’s opinion is based solely on: (a) the disclosure in other parts of KR ‘564 of various chemical treatments including bleaching, (b) the supposed awareness of a POSITA that “the mechanism of damage for bleaching and oxidative dyeing” is “the same.” (Ex. 1012, ¶155; see also Ex. 2061, Wickett Tr. 214, line 9–Tr. 215, line 3).

182. First, I note that the paragraph in question from KR ‘564 fails to mention bleaching at all. KR ‘564 mentions bleaching in some lists of chemical treatments where it is intended to be included and omits bleaching from other lists where it is intended to be excluded.

183. For example, paragraphs 12, 18, and 19 of page 3 of KR ‘564 describe a difficulty caused by use of monoethanolamine (MEA) as an alkalizing agent in permanent wave agents and hair dyes. None of those paragraphs mentions bleaching. A POSITA would have known that hair bleaching generally involves alkalizing agents other than MEA, such as metasilicates and ammonia. (Ex. 2005, p. 6 (“Alkaline pH is controlled by metasilicates mixed in with the persulfates, and ammonia is supplied by the ammonium salts”); Ex. 2010, p. 3 (bleach powder ingredients include ammonium persulfate and sodium metasilicate); Ex. 2011, pp. 3–4 (same); Ex. 1009, ¶¶17, 110, 123; Ex. 1011, p. 17 (“The ammonium salt is most effective; when combined with an alkalizing component such as sodium

carbonate or silicate, ammonia is formed”); Ex. 2033, p. 12 (“high pH” of bleach powder “is obtained using either metasilicates or phosphates or carbonates”)).

184. A POSITA also would have known that MEA is used in hair dyeing and permanent waving as the alkalizing agent. (Ex. 1001, Col. 16, lines 60–62 (describing alkalizing agents in oxidative hair coloring as being “usually ammonia and/or an ammonia substitute such as monoethanolamine”); Ex. 1010, Col. 3, lines 8–24 (describing use of monoethanolamine in hair dyeing as an alkali agent) and Examples 1–2 (same); Ex. 1011, p. 18 (“The alkali used to accelerate dyeing and swelling of the hair is ammonia or, less often, monoethanolamine.”). and p. 24 (“Ammonia and monoethanolamine are most effective in promoting waving action.”); Ex. 1029, p. 4, line 37–p. 5, line 3 (describing ammonia and monoethanolamine as alkaline substances in hair dye compositions) and Examples 1–4 (same); Ex. 1041, Col. 1, line 63–Col. 2, line 7 (describing use of ammonia and monoethanolamine during oxidative hair dyeing)).

185. Thus, paragraphs 12, 18, and 19 on page 3 of KR ’564 omit bleaching from the listed chemical processes because they relate to aspects that are relevant to permanent waving agents and hair dyes, and are not relevant to hair bleaching.

186. Second, Dr. Wickett is wrong to claim KR ’564 teaches that the mechanism of damage from bleaching and other chemical treatments is the same. To the contrary, KR ’564 teaches that if oxidative bleaching is “repeated several

times” then this “result[s] in twisting of the cuticles that serves as a cause of hair damage.” (Ex. 1006, p. 3 (¶8)). This form of damage is never described by KR ’564 as occurring during permanent waving or hair dyeing.

187. KR ’564 discloses that “with cuticles” in permanent waving “a full bond is not possible and cuticles that fall out are produced, thereby damaging the hair.” (Ex. 1006, p. 3 (¶6)). The reference to “full bond” makes sense in the context of permanent waving where reducing agents are used to intentionally break bonds in the hair, which are then separately oxidized in a second step to form new bonds. KR ’564 is describing that the cuticle can be damaged in permanent waving because the reducing agent breaks disulfide bonds in hair and those bonds may not be adequately restored in the second step, leaving the cuticle susceptible to damage. This form of damage is never described by KR ’564 as occurring during hair bleaching, and again a POSITA would know that reducing agents are not used in hair bleaching methods with bleach powder and developer.

188. KR '564 also contrasts bleaching with dyeing:

Oxidative Bleaching	Hair Dyeing
“oxidative bleaching action of the melanin pigment is conducted by hydrogen peroxide <i>separately from</i> the alkaline agent”	where “melanin bleaching and dye is conducted by <i>synergistic effects of</i> hydrogen peroxide and an alkaline agent” which makes hair “porous and stiff”

(Ex. 1006, p. 3, (¶¶7–8). In addition to contrasting the role of alkali in these chemical processes, KR '564 does not describe that hair is made porous or stiff when it is bleached. Thus, KR '564 expressly distinguishes mechanism of bleaching from other chemical treatments such as permanent waving and hair dyeing.

189. Contrary to what Dr. Wickett has said, a POSITA would have recognized there are differences in the damage that results from oxidative dyeing and the damage that results from alkaline bleaching formulations. Dye deposition on the hair surface is what contributes to a poor feel and dull appearance of dyed hair. (Ex. 2005, p. 9; Ex. 2004, p. 402, lines 12–22). Because of an absence of dyes in bleaching formulations, that form of damage cannot occur during bleaching. A POSITA also would have known that cystine loss is far greater in

bleaching than in dyeing. (Ex. 2055, p. 495 (“much less oxidation of cystine is reported to take place during oxidative dyeing”)). This causes bleached hair to react very differently from dyed hair. (See, e.g., Ex. 2055, p. 496 (Table 10 reports bleached hair exhibits significantly higher dimensional contraction when exposed to 4% sodium sulfite as compared with oxidatively dyed hair)).

190. Specifically in the context of alkaline bleaching using developer and bleach powder, a POSITA would have understood that a significantly different chemistry is involved than with oxidative hair dyeing. For example, the persulfates in bleach powder are able to form sulfate free radicals which play a part in hair bleaching and also in bleach damage, but owing to the absence of persulfates in oxidative hair dyeing, damage caused by sulfate radicals cannot occur in oxidative hair dyeing.

191. Third, neutralizing alkali with mild acid (as KR ‘564 intends) during bleaching with bleach powder and developer is counter-productive to actually lightening the hair’s color. (Ex. 1010, Col. 1, lines 46–49 (insufficient bleaching power below pH 8.5); Ex. 1039, Borish Tr. 50, lines 14–18 (“To bleach hair generally requires a pH of 9–11, usually practiced 10–11.”); Ex. 2005, p. 6 (pH around 10); Ex. 2007, p. 2 (pH “generally from 9–11”); Ex. 2008, ¶42 (“pH of greater acidity than 9.0 will tend to give a poor bleaching effect.”)). A POSITA would have understood that including a mild acid treatment in the bleaching

mixture applied to the hair would have one of two results (neither of which would be desirable). Either (a) the hair bleaching process would be harmed by neutralizing alkali and acidifying the pH below 8.5–9 or (b) the mild acid treatment solution itself would be fully neutralized by the alkali and then the hair would remain in an expanded condition, contrary to the intent of KR ‘564.

(Ex. 1006, p. 3 (¶13) (“to prevent hair damage or decrease the progression thereof, it is necessary to neutralize and remove the alkali agent to prevent expansion of the hair”)). Importantly, a POSITA would have understood that it is possible to include a mild acid solution in a permanent wave neutralizer and in some hair dyeing compositions where alkalinity is not required. See ¶¶178–180 (above).

E. STONE (EX. 1008)

192. Stone describes a hair care composition with quarternized polysiloxanes, surfactants, botanical compounds, amino acids, and vitamins. (Ex. 1008, Abstract). The compositions can be used in “shampoos, conditioners, styling gels, aerosol styling sprays, non-aerosol styling sprays, aerosol styling mousses, styling gels, styling pomades, leave-in conditioning sprays, and thermal protection sprays.” (Ex. 1008, ¶14).

193. Stone’s hair care compositions have a final pH between about 4.0 and about 8.5. (Ex. 1008, ¶31). A “wide variety of acids” can be used to lower the pH if it is too high, and “[c]ommon acids” include “citric acid, acetic acid, benzoic

acid, glycolic acid, lactic acid, malic acid, and sulfuric acid.” (Ex. 1008, ¶31).

Stone never mentions maleic acid.

194. Stone’s hair care compositions are post-treatments, and are never discussed as additives for use during a bleaching process. Stone does not mention bleaching formulations, bleach powder, or developer. In fact, the only mention of hair bleaching is in connection with Example 42, where shampoos and conditioners are tested on previously bleached hair. (Ex. 1008, ¶99).

XI. NONOBVIOUSNESS OF '954 PATENT CLAIMS

195. I have been informed and understand from reviewing the Institution Decision (Paper 12) that Petitioner has challenged the patentability of claims 1–16 and 18–30 of the '954 patent based on four combinations of references: (a) the combination of Pratt and Tanabe [claims 1–16, 18, 19, 21, and 23–30], (b) the combination of Pratt, Tanabe, and Stone [claims 20 and 22], (c) the combination of Pratt, Tanabe, Berkemer, and KR '564 [claims 1–16, 18, 19, 21, and 23–30], and (d) the combination of Pratt, Tanabe, Berkemer, KR '564, and Stone [claims 20 and 22]. (Paper 12, pp. 2, 37). In my opinion, as discussed in detail below, Petitioner has failed to establish that independent claim 1 would have been unpatentable as obvious because a POSITA would not make these combinations, and even if a POSITA did so, none of these combinations renders '954 patent claim 1 obvious. Further, because I have determined that claim 1 of the '954 patent would not have been obvious to a POSITA, I am informed and understand that no dependent claim of the '954 patent can be found to have been obvious.

A. GROUND #1: THE HAIR BLEACHING METHOD OF '954 PATENT CLAIM 1 WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014 IN LIGHT OF PRATT IN VIEW OF TANABE

196. The first instituted ground asserts that claim 1 of the '954 patent would have been obvious in light of Pratt in combination with Tanabe. I disagree that a POSITA would find all of the claim elements in the cited references or that a

POSITA would have combined the disclosures in these references to achieve the hair bleaching method described in the '954 patent claims. First, Pratt fails to disclose use of maleic acid in a method for bleaching hair, or to use the claimed maleic acid concentrations in a method for bleaching hair.

197. Second, Tanabe suffers from the same deficiencies; namely it fails to disclose mixing maleic acid with a bleaching formulation or to describe the claimed maleic acid concentrations in a bleaching mixture. To the contrary, Tanabe discloses after-the-fact acid treatment, which a POSITA would have believed are not beneficial in alkaline bleaching formulations.

198. Third, Petitioner's motivation to combine Pratt with Tanabe does not make sense. A POSITA would not have looked to Tanabe to provide improved optical/mechanical properties of hair either (a) because Pratt already claimed to provide these benefits, or (b) because the benefits proposed by Tanabe would not be expected to result in an alkaline bleaching environment.

199. Fourth, a POSITA would not have been motivated to select maleic acid from Tanabe's disclosure for use in Pratt's alkaline bleaching method. Tanabe teaches that his conditioner requires an acidic pH of 6 or less to provide benefits, while peroxide/persulfate bleaching is performed at pH 9–11. A POSITA would have lacked the expectation that maleic acid would provide any benefit when mixed with an alkaline bleaching formulation because Tanabe demonstrates that

his benefits are diminished at pH 5.0 or 5.5, and there is no evidence shown that any benefit would occur at pH 9–11.

200. Accordingly, it is my opinion that claim 1 of the '954 patent would not have been obvious to a POSITA over Pratt, and Tanabe.

1. Pratt Fails to Disclose Mixing Maleic Acid into a Bleaching Formulation or the Concentrations of Maleic Acid that Should be Used for that Purpose

201. In my opinion, a POSITA would have recognized that Pratt's disclosure does not include a teaching to mix maleic acid into a bleaching formulation and does not include a teaching of the concentrations of maleic acid that should be used for that purpose.

202. Pratt's alkaline hair bleaching method uses a bleaching composition made by mixing together three compositions (referred to as compositions (a), (b), and (c)) prior to application to the hair. (Ex. 1009, Abstract, ¶¶6, 8, 101, and 104). "Pratt does not disclose an order for mixing compositions (a), (b), and (c)." (Ex. 1012, ¶53). The only mention of maleic acid in Pratt is in connection with composition (c) within a long list of optional pH adjusters for composition (c). (Ex. 1009, ¶94).

203. The pH of the composition (c) “varies between 2 and 12, preferably 2.5–10, more preferably 3–8, most preferably 3–6 and in particular 3–5.” (Ex. 1009, ¶94).

204. Pratt’s long list of pH adjusters includes six different acids, monoethanolamine, triethanolamine, ammonia, the class of ammonia salts with acids (e.g., ammonium chloride, ammonium sulphate, ammonium carbonate, ammonium bicarbonate, and ammonium nitrate), the class of alkaline solutions (e.g., sodium hydroxide, and potassium hydroxide), and the class of salts made from alkaline solutions and known acids. (Ex. 1009, ¶94). A POSITA would have understood this is a virtually infinite list.

205. A POSITA would generally have wanted to avoid including maleic acid in Pratt’s final bleaching mixture. First, the stability of maleic acid must always be considered because of its highly reactive double bond. If a POSITA were at all concerned about shelf-life, they would have wanted to avoid using maleic acid, which explains why it has seldom been used in cosmetics. (Ex. 2035, p. 127). Second, it was well-known that maleic acid is a skin sensitizer. (Ex. 2036, pp. 1, 3, 7, 9; Ex. 2035, p. 129). Third, the safety data sheet for maleic acid warns that maleic acid is incompatible with alkali and oxidants that are present in Pratt’s bleaching composition. (Ex. 2036, pp. 5, 6). In my opinion, a POSITA would have selected the more commonly used citric acid as the pH adjuster, if needed, as it is

listed first by Pratt, and is used in almost all of Pratt's examples (Examples 1, 2, and 4–13).

206. Even if a POSITA were motivated to select maleic acid as the pH adjuster for Pratt's composition (c), Pratt never describes the concentration of maleic acid, or any acid or other pH adjuster. There simply is no discussion anywhere in Pratt of the amounts of acid to be used. This makes sense because the pH of Pratt's composition (c) is within the very wide range of 2–12. (Ex. 1009, ¶94). If the pH of Pratt's composition (c) is less than Pratt desires, it may be beneficial to avoid acidifiers altogether and instead it may be helpful to add alkalizing agents to increase the pH.

207. Pratt generally discloses potential mixing ratios for his compositions (a), (b), and (c). (Ex. 1009, ¶95). This does not inform a POSITA of the amounts of maleic acid to be used in the final bleaching composition. There simply is no teaching in Pratt of the amount of maleic acid in an alkaline bleaching composition.

208. The Board correctly commented in the Institution Decision that none of Pratt's examples use maleic acid or provide specific concentrations of maleic acid. (Paper 12, p. 19). Based on my review of Pratt's examples, Pratt contemplates very small amounts of acid in his final bleaching composition, well below 0.1 wt%.

209. Pratt's Example 1 is an aqueous solution of cetrimonium chloride that only includes enough citric acid to achieve pH 4. A POSITA would have understood that minute amounts of citric acid would be necessary to achieve this result.

210. Using the equilibrium equation (see ¶243 (below)), it is possible to calculate the amount of acid needed to be added to water to give an aqueous solution with a pH 4. Based on my calculation, the concentration of citric acid in the third composition needed to achieve that pH is about 0.002 wt.%, given its molecular weight of 192.12 g/mole and pK_{a1} value of 3.13 (corresponding with an acid dissociation constant value of 7.41×10^{-4}). (Ex. 2063, p. 174). When Pratt's compositions (a), (b), and (c) are combined using Pratt's specified mixing ratios (i.e., 4:8:0.1–4:8:1), the concentration of the acid in the final bleaching concentration is in the range of 0.00002 wt.%–0.0002 wt.%.

211. Therefore, it is my opinion that Pratt does not disclose mixing maleic acid into a bleaching formulation previously formed from developer and bleach powder, or the particular concentrations of maleic acid that should be used for that purpose.

2. Tanabe Also Fails to Disclose Mixing Maleic Acid into a Bleaching Formulation or the Concentrations of Maleic Acid that Should be Used for that Purpose

212. In my opinion, a POSITA would have recognized that Tanabe’s disclosure also does not include a teaching to mix maleic acid into a bleaching formulation previously made from developer and bleach powder, and does not include a teaching of the concentrations of maleic acid that should be used for that purpose.

213. Tanabe describes acidic hair cosmetic compositions that include at least three ingredients: (A) glycine, alanine, or combinations thereof, (B) an acid, and (C) a cationic surfactant. (Ex. 1007, Abstract and Col. 1, lines 42–45, 52–53). Tanabe’s acidic compositions have a pH range of 2–6 (Ex. 1007, Col. 3, lines 29–31), which is well below the pH range of alkaline bleaching (9–11). (Ex. 2005, p. 6 (pH around 10); Ex. 2007, p. 2 (pH “generally from 9–11”); Ex. 2008, ¶42 (“pH of greater acidity than 9.0 will tend to give a poor bleaching effect.”))

214. There is no disclosure in Tanabe to mix these acidic cosmetic compositions into an alkaline bleaching mixture. There is no disclosure in Tanabe that his acidic cosmetic compositions provide any benefit at pH greater than 6. To the contrary, Tanabe teaches that these acidic compositions are applied to already perm and bleach-damaged hair at a pH of 6 or lower. (Ex. 1007, Col. 3, lines 29–

31 and lines 38–43; Paper 12, p. 16, n.8 (“Tanabe does not disclose that its conditioners are added to a bleaching formulation”)).

215. Tanabe also fails to provide any disclosure of the amount of maleic acid that should be used in a final bleaching mixture applied to hair. Tanabe discloses that the acid component of his acidic cosmetic composition “may be added preferably in a proportion of from 0.01 to 5 wt. %.” (Ex. 1007, Col. 2, lines 7–12). This disclosure relates only to the acid content in the after-the-fact conditioner disclosed by Tanabe, and does not inform a POSITA of the concentration of maleic acid (or any acid) that should be used in an alkaline bleaching composition made up of developer and bleach powder.

216. Tanabe says the amount of component (B), acid, is “based on the whole composition from the standpoint of imparting transparency to hair.” (Ex. 1007, Col. 2, lines 8–12). Dr. Wickett was unclear what Tanabe meant by “transparency”: “transparency to hair in this context doesn’t really mean anything.” (Ex. 2061, Wickett Tr. 246, line 22–Tr. 247, line 14).

217. A POSITA would have understood that Tanabe only achieves this supposed “transparency” benefit within a pH range “specifically from 2 to 6, with pH 2.5 to 3.5 being particularly preferred,” and never describes a pH greater than 6. (Ex. 1007, Col. 3, lines 26–30). There is no teaching in Tanabe that this transparency benefit would occur at pH 9–11.

218. Tanabe exclusively describes his component (B) as being an acid at acidic pH, and never says salts of his various acids are usable in his cosmetic composition. (Ex. 1007, Abstract; Col. 1, lines 34–39 (“specific acid compound”); Col. 1, lines 40–44 (listing acid usable as component (B)); Col. 1, line 58–Col. 2, line 7 (same)). The examples only use acids at acidic pH. (Ex. 1007, Table 1 (malic acid, maleic acid, succinic acid at pH 3.3); Col. 5, line 63 (Example 3: malic acid at pH 3.5); Col. 6, line 32 (Example 4: malic acid at pH 3.5); Col. 5, line 52 (Example 5: malic acid at pH 3.0)). From this, a POSITA would have understood that Tanabe relies on acid to establish an acidic pH to provide any supposed benefits. (Ex. 1007, Col. 3, lines 29–31). Again, donation of the acidic proton is what produces the smooth, lustrous, and shiny fiber surfaces sought by Tanabe, and the fully deprotonated form of maleic acid as would exist at pH 8–12 cannot provide this benefit.

219. There is simply no guidance or information provided by Tanabe on how much component (B) should be used in an alkaline bleaching environment to achieve any benefit.

220. Thus, it is my opinion that Tanabe does not disclose mixing maleic acid into a bleaching formulation or the particular concentrations of maleic acid that should be used for that purpose.

3. A POSITA Would Not Have Looked to Tanabe to Provide Improved Optical or Mechanical Properties of Hair in Pratt's Alkaline Bleaching Method

221. Dr. Wickett says that there would be motivation to use Tanabe's composition (specifically one including maleic acid as component (B)) as Pratt's composition (c). (Ex. 1012, ¶45). Dr. Wickett says "Tanabe's composition is within the scope of Pratt's composition (c)," and "both Pratt and Tanabe are directed to similar goals of reducing damage and improving optical and mechanical properties of hair." (Ex. 1012, ¶45). From this, Dr. Wickett concludes that a POSITA would have expected both that Tanabe's compositions "could have been used as Pratt's composition (c)" and that when this modification was made "the expected result" would be "reducing damage to and/or improving the optical or mechanical properties of the hair as taught by Pratt and Tanabe." (Ex. 1012, ¶47). I disagree with Dr. Wickett.

222. Pratt already has a formulation that provides improved optical or mechanical properties. Even if Tanabe did disclose some new benefit that is not already present in Pratt—and it does not—there is absolutely no suggestion in Tanabe or expectation that the benefits of Tanabe's acidic conditioner would result if that acidic conditioner were included into Pratt's alkaline bleaching method. Thus, a POSITA simply would not have been motivated to modify Pratt to include

Tanabe's conditioner with maleic acid in order to provide enhanced optical or mechanical properties.

223. A POSITA would have understood that using Tanabe's composition in place of Pratt's composition (c) offers no additional benefit or improvement over the benefits already claimed by Pratt. First, Pratt already provides many if not all of the optical or mechanical property benefits claimed by Tanabe (Ex. 1007, Abstract; Col. 1, lines 5–7 and lines 29–31; Col. 6, lines 62–65). Second, a POSITA would have appreciated that Tanabe's composition has benefit when his acid is at an acidic pH, but not in an alkaline environment. Therefore, a POSITA would not have been motivated to include Tanabe's composition in an alkaline bleaching environment, which involves a significantly higher pH. Petitioner has not provided evidence that Tanabe's benefits would happen in this very different environment.

224. A POSITA would have understood that Tanabe's optical or mechanical property benefits include luster, softness, body, color deepness, transparency, and manageability. (Ex. 1007, Col. 1, lines 11–14 and lines 34–39; Ex. 1007, Col. 6, lines 65–67). Tanabe's optical properties relate to the external appearance of hair, i.e., its level of luster, deepness of color, shine, and "high transparency." (Ex. 1007, Col. 4, lines 3–9). Tanabe's mechanical properties relates to the softness, body of the hair and touch, i.e., "[s]oft and silky touch with

adequate resiliency, and good body,” (Ex. 1007, Col. 4, lines 17–23 and lines 45–49). In addition, Tanabe explains manageability refers to hair that is “[w]ell managed without hair out of place.” (Ex. 1007, Col. 4, lines 31–37).).

225. However, hair treated with Pratt’s bleaching method has improved combability, better shine or luster, softer feel, and had better elasticity when his three-part bleaching composition was used. (Ex. 1009, ¶¶115, 122, 127, 128, 138; Ex. 1011, p. 29 (shine measurements correlate well with consumer assessment of luster); Ex. 1017, p. 727 (equating “luster” and “shine”); see also Ex. 1004, p. 2, lines 24–32 (reporting that “hair becomes lusterless and dull” when “the natural gloss disappears”)). A POSITA would have understood that Pratt’s improved combability refers to the hair being easier to manage. (Ex. 1011, p. 11 (improved combing or brush qualities “make hair easier to manage”); Ex. 2006, p. 3 (“Conditioner give hair manageability by decreasing static electricity and by reducing friction among hair shafts, which can lead to tangling.”)). Cationic compositions, such as employed by Pratt, were known to impart “body, texture, and firmness” to the hair. (Ex. 2056, p. 166; Ex. 2060, p. 300 (“quaternary salts” confer properties such “as lubricity, shine and body.”)).

226. Tanabe says using the proper amounts of component (A), glycine and/or alanine, “impart[s] color deepness to hair.” (Ex. 1007, Col. 1, lines 52–57). Dr. Wickett admitted at deposition that he did not “actually know what [Tanabe]

means” by color deepness and “there’s no way to know whether it would occur at high pH or not.” (Ex. 2061, Wickett Tr. 259, line 2–Tr. 260, line 13).

227. Given that Pratt’s goal is to remove color from hair (to bleach hair), a POSITA would not have been focused on color deepness in that context. In addition, a POSITA would have understood from Tanabe that the benefit of color deepness requires an acidic pH. Tanabe’s Table 1 shows that the hair external appearance (which would include its color deepness) is helped when glycine or alanine are included (all rankings “A”). (Ex. 1007, Table 1). In each of these Invention Products, the glycine or alanine buffers the pH to 3.3. (Ex 1007, Table 1; see also Ex. 1004, p. 4, lines 8–12 (“glycocoll” or glycine added to conditioner as a “buffer substance[]” to maintain acidic pH)). However, when Tanabe omits glycine or alanine and allows the pH to increase to 5.0 or 5.5, the hair external appearance (which again would include its color deepness) is diminished and achieves rankings of “B” and “C.” (Ex. 1007, Table 1).

228. Finally, Tanabe suggests the amount of acid in his conditioner is linked to a benefit that Tanabe describes as “imparting transparency to hair.” (Ex. 1007, Col. 2, lines 7–12). Dr. Wickett was unclear what Tanabe meant by “transparency”: “transparency to hair in this context doesn’t really mean anything.” (Ex. 2061, Wickett Tr. 246, line 22–Tr. 247, line 14). Later, he would speculate that transparency in Tanabe “probably means” a “mirror-like reflection” of light

from the hair, which gives the hair “better shine.” (Ex. 2061, Wickett Tr. 247, line 15–Tr. 250, line 1). Of course, a POSITA would have been well-acquainted with the use of dilute acid rinses at acidic pH well below pH 9–11 to smooth the cuticle and enhance the shininess of hair. (Ex. 1004, p. 2, line 34–p. 3, line 5; Ex. 1006, p. 3 (¶19) (“use acid to return the hair to its original condition”); Ex. 1011, p. 10 (“earliest conditioning treatments” were “acid rinses” that counteracted undesirable “swelling of hair”) and p. 17 (acidic conditioners neutralized alkali residues in the hair and reversed hair swelling); Ex. 1038, Dispenza Tr. 95, line 5–Tr. 96, line 12 and Tr. 97, lines 11–24).

229. I am also aware that Dr. Wickett speculates the transparency discussed in Tanabe is caused by “deposition” of the acid “on the surface that fills in any surface disparities or something and puts a reflective coating on the surface that makes the—what he's determining as transparency—improves what he's determining as is transparency.” (Ex. 2061, Wickett Tr. 257, line 1–Tr. 258, line 12). Dr. Wickett offers nothing to substantiate this speculation. Tanabe certainly does not describe the mechanism postulated by Dr. Wickett.

230. Further, to the extent that a POSITA did believe Dr. Wickett's speculation regarding transparency, they would not believe this benefit or any other benefit in Tanabe would happen at the elevated pH used in alkaline bleaching. When hair is exposed to pH 9–11, this causes the hair shaft to become

swollen and the cuticle to be raised. (Ex. 1006, p. 3 (¶15) (hair swells at pH 8 or greater); Ex. 2009, pp. 560–561 (large increase in swelling above pH 9); Ex. 1012, ¶21 (“Under alkaline conditions, the hair swells allowing the chemical treatment to penetrate the hair cuticle into the cortex”). Therefore, the surface of the hair would not be expected to be smooth, and would not produce a “transparency” benefit at this pH. (Ex. 1004, p. 2, lines 24–32 (“lusterless and dull”); Ex. 1041, Col. 2, lines 27–28 (after repeated oxidative treatments leave hair fibers “have little shine and luster”). Further, Tanabe provides data demonstrating that his invention requires an acidic pH to provide conditioning benefits, and that those benefits are greatly diminished as the pH increases to 5.0 or 5.5. (Ex. 1009, Table 1). A POSITA would have understood that donation of the acidic proton is what produces the smooth, lustrous, and shiny fiber surfaces sought by Tanabe by smoothing the hair cuticle, and that the fully deprotonated form of maleic acid as would exist at pH 8–12 cannot provide this benefit.

231. That Pratt already provides benefits supposedly provided by Tanabe would not have surprised a POSITA. As Dr. Wickett notes, both Pratt and Tanabe disclose the use of similar cationic materials. (Ex. 1012, ¶¶49–50). If these cationic materials are the source of the optical or mechanical benefits claimed in Tanabe, then Pratt’s cationic materials already would provide the same benefit in Pratt’s bleaching method.

232. Dr. Wickett says “[a] skilled artisan would have expected that the use of Tanabe’s composition (C) would function as Pratt’s cationic compound, as well as provide Tanabe’s disclosed benefit as a conditioner in order to both reduce damage and impart Tanabe’s disclosed ‘improved optical and mechanical properties.’” (Ex. 1012, ¶48). I disagree.

233. Dr. Wickett has not identified any specific property that supposedly would be improved by this modification. Dr. Wickett has failed to provide any technical reasoning why a POSITA would expect an acidic conditioner formulated to operate at pH 2–6 would provide any benefit at a pH greater than 6. At his deposition, Dr. Wickett was unable to explain what benefits would be expected from the various components of Tanabe’s composition if they were added into Pratt’s alkaline bleaching mixture.

234. For example, as to Tanabe’s glycine/alanine, the most that Dr. Wickett would say is that “they might expect ... conditioning benefits, either improving optical or mechanical properties of hair based on Tanabe.” (Ex. 2061, Wickett Tr. 235, lines 6–20). Similarly, Dr. Wickett says a POSITA “might conclude” that glycine “provided part of the benefit” reported in Berkemer (Ex. 1004). (Ex. 2061, Wickett Tr. 235, line 21–Tr. 236, line 11). Not only are these statements mere expressions of possibility (i.e., the benefit might or might not be seen), Dr. Wickett failed to identify any teaching that these very small

amino acids would have any benefit at pH 9–11, the pH at which alkaline bleaching is done. Tanabe shows glycine and alanine are acidic buffers that force has acidic conditioner to a pH of 3.0. (Ex. 1007, Table 1); Ex. 1004, p. 4, lines 8–12 (“glycocoll” or glycine added to conditioner as a “buffer substance[]” to maintain acidic pH)). A POSITA would not expect that either glycine or alanine would provide any benefit in Pratt’s bleaching method.

235. As to Tanabe’s component (B) (i.e., the acid), Dr. Wickett testified that Tanabe includes the acid component in his conditioner “because he saw astonishing structural improvements of the hair surface.” (Ex. 2061, Wickett Tr. 236, line 19–Tr. 237, line 12). Of course, that testimony is contradicted by Tanabe, which says no such thing. (Ex. 2061, Wickett Tr. 238, line 13–Tr. 239, line 5 (“Oh excuse me, from Berkemer, not Tanabe”)).

236. Tanabe’s component (C) includes cationic materials, which Dr. Wickett says are similar to or the same as cationic materials already disclosed in Pratt. As I said above, I would not have expected Tanabe’s cationic material to provide any additional benefits as compared with Pratt’s cationic material. Tanabe certainly does not describe any particular benefit that he finds as a result of his cationic materials. Tanabe says the cationic materials provide “softness” when used in the correct amount. (Ex. 1007, Col. 2, lines 45–50). Dr. Wickett indicated that he did not know if Tanabe’s cationic material would provide the same softness

benefit when used in Pratt’s bleaching method. (Ex. 2061, Wickett Tr. 255, line 17–Tr. 256, line 21).

237. A POSITA also would have understood that Tanabe’s claimed improvements in softening/body and touch/feel result from the low pH of the conditioner, which smooths the hair fiber surface and makes hair feel softer and silkier to the touch. (Ex. 1006, p. 2 (¶2) (“mild acid” conditioning after-treatment provides hair with greater “elasticity”); Ex. 2006, p. 433 (smooth hair cuticles “result in softer hair”); Ex. 2021, ¶¶171, 252 (POSITA would have expected prior art dilute acid after-treatment solutions disclosed in Berkemer to “improve[e] feel and appearance of the hair”)).

238. A difference between Tanabe’s cationic component and Pratt’s composition (c) is that Tanabe requires an acid to provide for an acidic pH with its cationic component, while Pratt says pH adjusters are optional in composition (c). (Compare Ex. 1007, Col. 1, line 58–Col. 2, line 5 with Ex. 1009, ¶94). To the extent that Tanabe’s disclosed acids were responsible for Tanabe’s improved mechanical and optical characteristics, a POSITA would have understood that Tanabe’s benefits require an acidic pH which is not present during alkaline bleaching with developer and bleach powder.

239. For the reasons provided above, it is my opinion that a POSITA would not have looked to Tanabe to provide improved optical or mechanical properties of hair in Pratt’s alkaline bleaching method.

4. A POSITA Would Not Have Been Motivated by Tanabe to Select Maleic Acid for Use in Pratt’s Alkaline Bleaching Method

240. Dr. Wickett also says that “a skilled artisan would have been motivated to select maleic acid from Tanabe’s expressly disclosed acids in view of Tanabe’s disclosure that maleic acid is one of three ‘preferred’ acids for use as component (B), one of three acids exemplified, and one of only two acids claimed.” (Ex. 1012, ¶56). I disagree.

241. Dr. Wickett could not explain why Tanabe expressed a preference for three particular acids (malic, maleic, and succinic acid) over other acids. (Ex. 2061, Wickett Tr. 240, line 6–Tr. 242, line 1 (“He doesn’t clearly explain why he expresses the preference for those three acids”)). Dr. Wickett would later admit that Tanabe simply does not teach that maleic acid provides any conditioning benefit during alkaline bleaching. (Ex. 2061, Wickett Tr. 242, lines 10–19). Nor did Dr. Wickett know whether Tanabe’s three preferred acids would, in fact, provide any tangible benefit in an alkaline environment. (Ex. 2061, Wickett Tr. 242, lines 3–8).

242. A POSITA would not have expected any benefits if a maleic acid containing Tanabe conditioning composition were added into the Pratt alkaline bleaching composition. A POSITA would have understood that Tanabe teaches the benefit of the acid is to provide an acidic environment. Tanabe shows that the benefits of his conditioning composition are pH dependent. Tanabe's Invention Products are at pH 3.3 and produced better results than similar compositions that are at pH 5.0 or 5.5. Further, Tanabe only describes including acids in his compositions, and does not contemplate including the salt forms which are prevalent at higher pH.

243. A POSITA would have understood that maleic acid can exist in up to three forms depending on pH: (1) fully protonated maleic acid, (2) hydrogen maleate, and (3) maleate. Maleic acid has two acid dissociation constants or pK_a values (1.9 and 6.2). (Ex. 2034, p. 40; Ex. 2065, p. 8). When the pH is equal to the first pK_a value (1.9), maleic acid and hydrogen maleate will be present in equal amounts. As the pH increases above 1.9, the amount of fully protonated maleic acid will be greatly reduced and hydrogen maleate will be the predominant species. When the pH is equal to the second pK_a value (6.2), hydrogen maleate and maleate will be present in equal amounts. As the pH increases above 6.2, maleate will be the predominant species. Maleate is called a conjugate base, and it cannot act as an

acid because it does not have any acidic protons. A graph showing the various forms of maleic acid versus pH is above at paragraph 72.

244. A POSITA would have understood that at a pH equal to the first pK_a value, the maleate ions would be virtually nonexistent. Similarly, at a pH equal to the second pK_a value, fully protonated maleic acid would be virtually nonexistent.

245. In Tanabe's low pH experiments (pH 3.3), Tanabe would have had a combination of fully protonated maleic acid and hydrogen maleate ions, and virtually no maleate ions. Similarly, at Tanabe's high pH experiments (pH 5.0, 5.5), the maleic acid would be present in its hydrogen maleic and maleate forms, but the fully protonated maleic acid would be virtually nonexistent.

246. Tanabe mentions specifically that pH may be in the range of 2–6, and explains that the particularly preferred pH range is 2.5–3.5. Combined with Tanabe's Table 1, a POSITA would have understood that the effectiveness of Tanabe's conditioner significantly decreases as pH increases to around 6. This follows the pattern of the transition of maleic acid into its various forms, i.e., the acid transitioning from its fully protonated form to its doubly deprotonated, maleate form. See paragraph 72 (above).

247. A POSITA would have understood that in the context of Pratt's bleaching compositions, the pH would be 8–12, preferably in the range 9–11. (Ex. 1009, p. 14 (claim 12); Ex. 1010, Col. 1, lines 46–49 (insufficient bleaching

power below pH 8.5); Ex. 1039, Borish Tr. 50, lines 14–18 (“To bleach hair generally requires a pH of 9–11, usually practiced 10–11.”); Ex. 2005, p. 6 (pH around 10); Ex. 2007, p. 2 (pH “generally from 9–11”); Ex. 2008, ¶42 (“pH of greater acidity than 9.0 will tend to give a poor bleaching effect.”)). Therefore, a POSITA would further have known that there would be virtually no fully protonated maleic acid present in Pratt’s bleaching composition. This is significant because Tanabe teaches that the benefits of his conditioning composition stem from the presence of fully protonated acid and not its fully deprotonated form. As a result, a POSITA would not have expected any benefit from a Tanabe conditioner with maleic acid since the benefits of his invention were already disappearing when the pH approaches 6.0, which is still an acidic composition, while Pratt is significantly more alkaline.

248. To believe that Tanabe’s conditioner would provide a benefit when used in an alkaline bleaching mixture would require a belief that maleic acid in a proposed combination with Pratt could simultaneously exist at pH 2–6 and also pH 9–11, which is of course impossible. As such, a POSITA would only have expected the acidic pH adjuster used in Tanabe to provide benefit at low pH.

249. For the reasons provided above, it is my opinion that a POSITA would not have been motivated by Tanabe to select maleic acid for use in Pratt’s alkaline bleaching method.

B. GROUND #2: CLAIMED HAIR BLEACHING METHODS OF CLAIMS 20 AND 22 WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014 IN LIGHT OF PRATT IN VIEW OF TANABE AND STONE

250. The second instituted ground further relies on Stone in connection with the additional elements recited in claims 20 and 22. As shown above, Petitioner fails to establish that independent claim 1 would have been obvious based on Pratt in combination with Tanabe. Petitioner does not propose that Stone alleviates the deficiencies identified above.

251. Stone fails to even mention maleic acid or the amounts of maleic acid that should be used in a bleaching mixture. Instead, Stone describes a hair care composition with quarternized polysiloxanes, surfactants, botanical compounds, amino acids, and vitamins that can be used in “shampoos, conditioners, styling gels, aerosol styling sprays, non-aerosol styling sprays, aerosol styling mousses, styling gels, styling pomades, leave-in conditioning sprays, and thermal protection sprays.” (Ex. 1008, Abstract and ¶14). Stone’s hair care compositions have a final pH between about 4.0 and about 8.5. (Ex. 1008, ¶31).

252. Because Stone does not cure the deficiencies in Pratt and Tanabe regarding independent claim 1, Petitioner has failed to show that it is more likely than not that at least one claim of dependent claims 20 and 22 is rendered obvious by Pratt/Tanabe/Stone.

253. Accordingly, in my opinion a POSITA would not have found the bleaching methods of claims 20 and 22 to be obvious in light of Pratt/Tanabe/Stone.

C. GROUND #3: THE HAIR BLEACHING METHOD OF '954 PATENT CLAIM 1 WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014 IN LIGHT OF PRATT IN VIEW OF TANABE, BERKEMER, AND KR '564

254. The third instituted ground further relies on two additional references (Berkemer and KR '564) in addition to the Pratt and Tanabe references. As shown in Section XI.A above, Petitioner fails to establish that claim 1 of the '954 patent would have been obvious based on Pratt in combination with Tanabe.

1. Berkemer and KR '564 Both Fail to Disclose Mixing Maleic Acid into a Bleaching Formulation or the Concentrations of Maleic Acid that Should be Used for that Purpose

255. Berkemer discloses a method for treating previously damaged hair by applying an acidic leave-on treatment with heat from a hair dryer. (Ex. 1004, p. 3, lines 7–10, p. 4, line 28–p. 5, line 15). The treatment has a pH of 1.9–4.0. (Ex. 1004, p. 4, lines 8–12). While Berkemer discloses the use of “maleic acid or substitution products thereof,” (Ex. 1004, p. 3, lines 12–17), it fails to teach to mix maleic acid with a bleaching formulation (which is alkaline), or to use it in a method for bleaching hair. Similarly, Berkemer also fails to disclose a particular maleic acid concentration range for those uses.

256. KR '564 has the same deficiencies as Berkemer. KR '564 relates to a mild acid rinse that is intended to neutralize and remove alkali residues left over from prior chemical hair treatments. (Ex. 1006, p. 2 (¶¶1–2), p. 3 (¶13). KR '564 discloses numerous organic acids for this purpose, and does not describe any advantages of using maleic acid over any other mild acid. (Ex. 1006, pp. 4 (¶¶3, 11), p. 7 (¶4)).

257. Lactic acid is preferred because it provides (1) “the best stability,” (Ex. 1006, p. 7 (¶5)), (2) pH of a lactic acid solution “can be reduced by even a small amount more than with other acid types,” (Ex. 1006, p. 7 (¶5)), (3) the pH of the lactic acid solution “can be preserved for a long time (2–3 years),” (Ex. 1006, p. 7 (¶5)), and (4) the lactic acid treatment “exhibits particularly excellent effects.” (Ex. 1006, p. 7 (¶5)). KR '564 does not disclose a particular maleic acid concentration range to be mixed with a bleaching formulation, used in a method for bleaching hair, or for any purpose at all.

2. Berkemer and KR '564 Fail to Provide A Reason to Select Maleic Acid for Use in Pratt's Alkaline Bleaching Method

258. Petitioner and its declarant (Dr. Wickett) rely on Berkemer and KR '564 only to “provide an additional reason to specifically select maleic acid from Tanabe's three preferred acids for use as component (B).” (Paper 3, p. 71; Ex. 1012, ¶147). I disagree.

259. I see that Dr. Wickett claims that KR '564 discloses the use of maleic acid in bleaching to alleviate and prevent damage to the hair caused by that alkaline process. (Ex. 1012, ¶147, citing Ex. 1006, p. 2). I understand Dr. Wickett's citation is to the following paragraph in KR '564:

The present invention relates to a hair treatment agent comprising mild acid, and it relates to a hair treatment agent which has the advantages of alleviating and preventing hair damage caused by chemical treatments such as permanent wave, dyeing or bleaching.

(Ex. 1006, p. 2 (¶1). I disagree with Dr. Wickett opinion because he is misinterpreting KR '564. In the cited paragraph, the discussion of “alleviating” hair damage refers to reversing the effect of a chemical treatment that has left the hair fibers in a swollen state with cuticles lifted. The reference to “preventing” hair damage refers to alleviating the vulnerability of the hair to further damage from routine maintenance, e.g., breaking of cuticles through combing and brushing, if it is left in a swollen state. This is apparent from the very next paragraph in KR '564 which explains that the mild acid treatment provides the hair with “greater shine, smoothness and elasticity, making hair glossier, and facilitating the production and maintenance of styling.” (Ex. 1006, p. 2 (¶2)). A POSITA would have understood that these benefits are the result of the mild acid treatment neutralizing the alkali in

order to maintain the isoelectric point of the hair and thereby converging or deswelling the hair fibers.

260. Berkemer does not motivate the addition of maleic acid into a highly alkaline bleaching formulation. Berkemer discloses the surface smoothing or astringent effect of acids in an acidic environment. (Ex. 1004, p. 3, lines 7–10 and lines 35–37). To ensure a pH is maintained from 1.9 to 4.0, Berkemer teaches that buffer substances are included in his treatment composition. (Ex. 1004, p. 4, lines 8–12).

261. A POSITA would have understood that the benefits achieved in Berkemer are due to (and require) an acidic pH, and that these benefits cannot be achieved at pH 9–11, which is the pH employed in alkaline bleaching. The isoelectric point of hair is less than about 4. (Ex. 2022, pp. 368, 369, 388). During hair bleaching, the hair is exposed to alkali and a pH far greater than 4. This has a number of effects on the hair, not the least of which are (a) to swell the hair, making it permeable to bleaching chemicals, (Ex. 1012, ¶21; Ex. 2021, ¶15; Ex. 1035, p. 2, lines 22–26 (alkaline agent “causes swelling of the keratin fibre, with opening of the scales, which promotes the penetration of the oxidizing agent” into the hair); Ex. 2005, p. 6), and (b) to cause negative charge to build up on the exterior surface of the hair fibers. (Ex. 2006, p. 3 (damaged hair has “negative charge”); see also Ex. 1011, p. 17 (describing “formation of acid groups” which

have a negative charge “during oxidation”)). A POSITA would have known that leaving the hair fibers in a swollen state would render them soft and more susceptible to damage. (Ex. 1006, p. 3 (¶19) (“to prevent the severe swelling, softening and thus damage of hair due to alkaline chemicals... it is important to use acid to return the hair to its original condition to maintain the appropriate isoelectric point level.”))

262. To address this problem, it was known to apply acidic substances to hair after the bleaching process had been completed. For example, Berkemer itself teaches that dilute solutions of tannic acid, lactic acid, and citric acid were applied to hair to smooth the hair surface. (Ex. 1004, p. 2, line 36–p. 3, line 3). Numerous other references also discuss the use of acid rinses after bleaching to smooth the roughened surface of already bleach damaged hair. (Ex. 1006, p. 2 (¶¶1–2), p. 3 (¶13) (acid rinse to neutralize and remove alkali agent to prevent expansion or swelling of hair); Ex. 2056, p. 157 (acid rinse are “classical agents used in hair care products” that bring “‘hair pH’ back to the normal level,” address residual alkali that “impair hair surface and appearance,” and “prevent the elimination of amino acids” from the hair); Ex. 2060, p. 290 (“self evident” that low pH shampoos and cream rinses have advantages over high pH products when used on already bleach hair) and p. 300 (“crème rinses are generally formulated in the pH range 2.5–5.0 which gives sufficient acidity to neutralize the hair”); Ex. 1011, p. 10 (“earliest

conditioning treatments were... acid rinses”) and p. 17 (“ascorbic or glyoxylic acid may be added to the conditioning agent” and “acidic pH” of the conditioner neutralizes “alkali residues” and reverses “hair swelling”); Ex. 2033, p. 13 (“it is important to use a shampoo or a rinse after [bleach] application” and “[i]t is preferable to select an acid pH product”); Ex. 2031, ¶31 (acid rinse post treatments were known prior to 2014); Ex. 2061, Wickett Tr. 92, line 10–Tr. 93, line 9)). The purpose of these acid rinses was to neutralize the alkali and de-swell the hair. (Ex. 1011, p. 17; Ex. 1038, Dispenza Tr. 95, line 5–Tr. 96, line 12; Ex. 1006, p. 3 (¶¶12–13)).

263. There is no teaching that the surface smoothing benefits described in Berkemer can be achieved at a pH greater than 4. The acid in Berkemer is intended to provide a benefit by creating an acidic environment. To believe that Berkemer’s maleic acid conditioning technique would provide a benefit when used in an alkaline bleaching mixture would require a belief that the maleic acid present in a proposed mixture with the bleaching treatment could simultaneously exist at pH 1.9–4 and also at pH 9–11, which is of course impossible. A POSITA would have understood that donation of the acidic proton to neutralize alkali is what produces the surface smoothing or astringency benefit sought by Berkemer, and that fully deprotonated maleic acid as would exist at pH 8–12 cannot provide this benefit. Therefore, a POSITA would *not* have expected Berkemer’s maleic acid

conditioning technique to have provided the benefits if used in an alkaline bleaching mixture.

264. Having reviewed Dr. Wickett’s declaration carefully, I do not find any technical discussion by him or citation to the art of any description that maleic acid (or any acid) can achieve a permanent surface smoothing effect at pH 9–11.

Dr. Wickett comments that Berkemer treats hair with a maleic acid solution after the hair has already been damaged by chemical treatments. (Ex. 1012, ¶¶148).

Dr. Wickett notes that Berkemer says the structural improvement of the hair surface is “astonishing.” (Ex. 1012, ¶¶149). Dr. Wickett argues that some positive charges would be present on hair at pH 11, therefore maleic acid would not be repelled by the overall negative charge of the hair fiber surface. (Ex. 1012, ¶¶150–153). None of this explains why the surface smoothing effect, which Berkemer describes at a pH 1.9–4, would be expected to occur at pH 9–11 (which is the pH used in alkaline bleaching).

265. Then, in paragraph 154, Dr. Wickett explains that “[a]fter a typical bleaching process, hair is at alkaline pH” and therefore “the benefits of Berkemer including the ‘astonishing structural improvement of the hair surface’ are associated with hair that is at alkaline pH.” (Ex. 1012, ¶154). Dr. Wickett fails to explain what he means by the phrase “associated with.” Nowhere does Berkemer teach that surface smoothing can occur at pH greater than 4. To the contrary,

Berkemer teaches that acidic buffers, such as glycine, should be added to maintain an acidic pH. (Ex. 1004, p. 4, lines 8–12). Again, a POSITA would have understood that Berkemer’s conditioning method provided surface smoothing by neutralizing residual alkali (i.e., driving the pH down below the level where bleaching could occur), and thereby de-swelling the hair. (Ex. 1011, p. 17; Ex. 1038, Dispenza Tr. 95, line 5–Tr. 96, line 12; Ex. 1006, p. 3 (¶¶12–13)).

266. Dr. Wickett’s paragraph 154 continues with his opinion that a POSITA “would not have expected that alkaline conditions typically used in bleaching methods would alter the benefits taught by Berkemer.” (Ex. 1012, ¶154). I disagree with Dr. Wickett because, as discussed, the only condition where Berkemer say his treatment provides any benefit is at pH 1.9–4, and there is absolutely no discussion in Berkemer that maleic acid provides any benefit at pH 9–11 during alkaline bleaching. Again, Berkemer’s use of maleic acid is to provide an acidic environment. It would be impossible for maleic acid to simultaneously exist at pH 4 (where Berkemer says it has a benefit) and also at pH 9–11 (where a POSITA knows alkaline bleaching is performed). I also see that Dr. Wickett relies on KR ’564 and say it teaches that maleic acid can be used during a bleaching process. (Ex. 1012, ¶154). As discussed in greater detail below, KR ’564 discloses that its mild acid treatment provides a benefit only in an acidic environment (pH 4–5), where it can neutralize alkali and deswell hair.

267. In my opinion, a POSITA would not have been motivated by Berkemer to choose maleic acid out of Tanabe’s acids for use in Tanabe’s after-the-fact acidic conditioner so that it could be used in Pratt’s alkaline bleaching method. As discussed above, even if there were some motivation provided by Berkemer to use maleic acid in Tanabe’s conditioner—which there is not—Tanabe’s conditioner is only taught to provide benefits at acidic pH and not at alkaline pH.

268. Dr. Wickett also argues that KR ’564 teaches “maleic acid as an additive for a bleaching process.” (Ex. 1012, ¶155, citing Ex. 1006, p. 4 (¶3)). According to Dr. Wickett this would provide a POSITA with an expectation that Berkemer’s benefits could be achieved at alkaline bleaching pH. (Ex. 1012, ¶154).

269. A POSITA also would not have been motivated by KR ’564 to choose maleic acid for use in carrying out Pratt’s alkaline bleaching method. KR ’564 never describes any particular benefit that would come from choosing maleic acid as opposed to any other mild acid. To the contrary, KR ’564 teaches that lactic acid is preferred over other mild acids for the reasons discussed above (¶173).

270. Also, KR ’564 never teaches that mixing a mild acid treatment with a bleaching formulation would provide any benefit in that high pH environment. Dr. Wickett places significances on a single sentence in KR ’564, which he says

“teaches maleic acid as an additive for a bleaching process.” (Ex. 1012, ¶155 citing Ex. 1006, p. 4). However, that sentence never even mentions bleaching:

In addition to being used alone as a treatment agent, the hair treatment agent according to the present invention may be preliminarily added to a permanent wave agent, dyeing agent and the like as an additive for various hair treatment solvents.

271. A POSITA would have understood that the omission of bleaching from that sentence was intentional because KR '564 was describing the use of the mild acid treatment in chemical processes that do not require alkaline pH. For example, permanent waving involves a reduction step where disulfide bonds in hair are intentionally broken, and a neutralization step where the previously reduced disulfide bonds are reformed. (Ex. 2006, p. 2). A POSITA would have known that a mild acid treatment agent could be included in step 2 (the neutralization step) without adversely impacting its chemistry because that step is acidic and does not require alkali. (Ex. 1011, p. 26 (hydrogen peroxide neutralizers are at pH 2.0–4.5; Ex. 2061, Wickett Tr. 215, line 9–Tr. 216, line 7 (“I would – would put it with the neutralizer” which is at an acidic pH)).

272. Similarly, a mild acid treatment agent could be used with certain hair dyeing processes, which do not require highly alkaline pH or oxidation reactions.

Temporary hair coloring is performed without requirements for alkali or oxidants, because the dye is deposited on the outside surface of the hair fiber. (Ex. 2005, p. 208 (“Coloration [by temporary colorants] occurs by deposition of disperse or acid dyes on the surface of the hair”); Ex. 2060, p. 290 (same)). No-lift demi-permanent hair coloring can be done at an acidic pH. (Ex. 2058, p. 3 (demi-permanent hair color “can be formulated without ammonia for no lift” and “processes at an acidic pH without lift”); see also Ex. 2059, pp. 24–25 (demi-permanent hair color is referred to as “no-lift” and uses “same [oxidative] dye precursors and a some-what lower hydrogen peroxide concentrations (1–2% in the mixed product)”)). A POSITA would understand that these treatments, those not requiring an alkaline environment (pH 9–11), are what KR ’564 means by “permanent wave agent” and “dyeing agent.”

273. Third, the teaching in KR ’564 that mild acid treatments at pH of 4–5 should be used to neutralize alkali to prevent hair damage, (Ex. 1006, pp. 2 (¶¶1–2), p. 4 (¶11)), would have led a POSITA away from mixing any mild acid with a bleaching formulation. Bleaching is done at a high pH (9–11) and relies on alkali to swell hair fibers. A POSITA would have wanted to avoid mixing mild acids with the bleaching formulation for fear that they would hinder bleaching by neutralizing alkali. A POSITA would have known that mild acids neutralize

alkalizing agents by donating an acidic proton, a process called neutralization, and if the pH is sufficiently decreased swelling of the hair fibers can be reversed.

274. Dr. Wickett also argues that “the mechanism of damage for bleaching and oxidative dyeing” are “the same, as disclosed by KR ‘564.” (Ex. 1012, ¶155 citing Ex. 1006, p. 3). I disagree.

275. KR ‘564 contrasts oxidative bleaching with hair dyeing and teaches that the mechanisms are different because of the role of the alkaline agent:

Oxidative Bleaching	Hair Dyeing
“oxidative bleaching action of the melanin pigment is conducted by hydrogen peroxide <i>separately from</i> the alkaline agent”	where “melanin bleaching and dye is conducted by <i>synergistic effects of</i> hydrogen peroxide and an alkaline agent” which makes hair “porous and stiff”

(Ex. 1006, p. 3, (¶¶7–8)). In addition to contrasting the role of alkali in these chemical processes, KR ‘564 does not describe that hair is made porous or stiff when it is bleached. Thus, KR ‘564 distinguishes the mechanism of oxidative bleaching from hair dyeing.

276. Contrary to what Dr. Wickett has said, a POSITA would have recognized that damage caused by hair bleaching differs from damage caused by

hair dyeing. Dye deposition on the hair surface is what contributes to a poor feel and dull appearance of dyed hair. (Ex. 2005, p. 9; Ex. 2004, p. 402, lines 12–22). Because dyes are absent from bleaching formulations that form of damage cannot occur during hair bleaching. A POSITA also would have known that cystine loss is far greater in bleaching than in dyeing. (Ex. 2055, p. 495 (“much less oxidation of cystine is reported to take place during oxidative dyeing”)). Because the damage is different, bleach damaged hair reacts differently than dyed hair. (Ex. 2055, p. 484 (“bleached hair, when exposed under similar [weathering] conditions, weakens and becomes more swellable in spite of decrease in urea-bisulfite solubility”) and p. 496 (Table 10 reports significantly higher dimensional contraction when exposed to sulfite as compared with oxidatively dyed hair)).

277. A POSITA would have understood significantly different chemistry is involved with alkaline bleaching using developer and bleach powder (as in ’954 patent claim 1) as compared to hair dyeing. Persulfates in bleach powder form sulfate free radicals, which play a part in hair bleaching and also damage hair. Persulfates are not used in hair dyeing, and the damage caused by sulfate radicals cannot occur in hair dyeing.

278. Dr. Wickett also argues that a POSITA would have known how to compensate for the acidic additive composition in order to ensure bleaching is not inhibited. (Ex. 1012, ¶156). In particular, Dr. Wickett suggests adding base to

increase the pH of the bleaching formulation to which he has added the acid.

(Ex. 1012, ¶156). However, Dr. Wickett has not actually performed this experiment, and a POSITA would have known that there could be other chemical reactions caused by this change. In any case, Dr. Wickett’s argument missed the crucial point, which is that at pH 9–11 (where alkaline bleaching occurs), there is no teaching in the art that any additional benefits associated with KR ’564, Berkemer, or Tanabe can be achieved in alkaline bleaching.

279. Dr. Wickett continues this argument by suggesting that KR ’564 does not require an acidic pH, but fails to explain why the benefits of KR ’564 purportedly can be achieved at pH greater than 5. (Ex. 1012, ¶157). Dr. Wickett argues that KR ’564 describes different embodiments, some of which are post-treatments that lower the pH and others of which he says do not require an acidic pH. (Ex. 1012, ¶157). However, Dr. Wickett fails to identify any support in KR ’564 for his opinion.

280. I disagree with Dr. Wickett’s opinion because it contradicts KR ’564 itself. In particular, KR ’564 teaches that the surface smoothing effect (“hair converges”) requires “a pH of 4–5.” (Ex. 1006, p. 3 (¶16)). KR ’564 also teaches that swelling and softening of the hair occurs “when the pH is 8 or greater.” (Ex. 1006, p. 3 (¶15)). To further emphasize the point that a low, acidic pH is required, KR ’564 teaches that “it is important to use acid to return the hair to its

original conditions to maintain the appropriate isoelectric point level.” (Ex. 1006, p. 3 (¶19)). KR ‘564 also says “it is necessary to neutralize and remove the alkali agent to prevent expansion of the hair.” (Ex. 1006, p. 3 (¶13)). A POSITA would have understood that donation of acidic protons is what allows KR ‘564’s mild acid to converge or de-swell hair fibers, and that the fully deprotonated form of maleic acid as would exist at pH 8–12 cannot provide this benefit. KR ‘564 simply does not teach that a mild acid solution provides any benefit at a pH greater than 5.

281. Berkemer and KR ‘564 would not have provided any reason to select maleic acid and to use it in the Pratt/Tanabe combination. Thus, for the reasons provided above, it is my opinion that at least claim 1 of the ‘954 patent would not have been obvious to a POSITA over Pratt, Tanabe, Berkemer, and KR ‘564.

D. GROUND #4: THE CLAIMED HAIR BLEACHING METHODS OF CLAIMS 20 AND 22 WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014 IN LIGHT OF PRATT IN VIEW OF TANABE, BERKEMER, KR ‘564, AND STONE

282. The fourth instituted ground further relies on Stone in connection with the additional elements recited in claims 20 and 22. As shown above, Petitioner fails to establish that independent claim 1 would have been obvious based on Pratt in combination with Tanabe, Berkemer, and KR ‘564. Petitioner does not propose that Stone alleviates the deficiencies identified above.

283. Stone fails to even mention maleic acid or the amounts of maleic acid that should be used in a bleaching mixture. Instead, Stone describes a hair care composition with quarternized polysiloxanes, surfactants, botanical compounds, amino acids, and vitamins that can be used in “shampoos, conditioners, styling gels, aerosol styling sprays, non-aerosol styling sprays, aerosol styling mousses, styling gels, styling pomades, leave-in conditioning sprays, and thermal protection sprays.” (Ex. 1008, Abstract and ¶14). Stone’s hair care compositions have a final pH between about 4.0 and about 8.5. (Ex. 1008, ¶31).

284. Because Stone does not cure the deficiencies in Pratt and Tanabe regarding independent claim 1, Petitioner has failed to show that it is more likely than not that at least one claim of dependent claims 20 and 22 is rendered obvious by Pratt/Tanabe/Berkemer/KR ’564/Stone.

285. Accordingly, in my opinion a POSITA would not have found the bleaching methods of claims 20 and 22 to be obvious in light of Pratt/Tanabe/Berkemer/KR ’564/Stone.

E. OBJECTIVE EVIDENCE DEMONSTRATES THAT ’954 PATENT CLAIM 1 WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014

286. The fact that the invention of the ’954 patent would not been obvious to a POSITA is also supported by objective indicia of nonobviousness, or so called secondary considerations, including long felt but unresolved need for the

invention, Petitioner’s copying the method of ’954 patent claim 1, commercial success of Petitioner’s products employing that invention, unexpected results provided by that invention as well as the skepticism and praise of others.

1. Long-Felt and Unmet Need as of May 16, 2014

287. I have been informed and understand that a long-felt but unmet need for an invention supports the nonobviousness of the invention. If the invention under consideration was obvious based on earlier prior art disclosures, the long-felt need would have been met before the time of the invention.

288. In my opinion, a long-felt need existed in the field of cosmetic science for a method that prevents damage and repairs damage during oxidative hair bleaching, which confirms the nonobviousness of the inventions claimed in ’954 patent claim 1.

289. Oxidative hair bleaching has long been known to damage hair. As early as 1964, it was known that repeated bleaching caused numerous problems including making hair brittle, opening the hair cuticles, and making hair appear “lusterless and dull.” (Ex. 1004, p. 2, lines 24–32). Even thirty years later, textbooks and journal articles continued to report that “the aggressive nature of the bleaching mixtures can result in significant damage to hair.” (Ex. 2005, p. 6; see

also Ex. 2029, p. 6). Some theorized that this damage was caused by unintended oxidation of cysteine to cysteic acid. (Ex. 2005, p. 7).

290. Shortly before the May 2014 effective filing date of the '954 patent, experts continued to describe how bleaching lowered the mechanical strength of and otherwise damaged hair. (Ex. 1011, p. 16 (use of “strong bleach” causes “alteration of the chemical properties of hair” and “results in modified physical properties: a higher extensibility and thus lower mechanical strength; a rough, strawlike feel when dry; and a spongy feeling when wet.”); Ex. 2006, p. 6 (“Following bleaching, the hair will often be different in texture, will break more easily, and will be more susceptible to humidity.”); Ex. 2007, p. 6 (severe bleaching breaks disulfide bonds)).

291. I have reviewed the deposition testimony of Thomas Dispenza submitted by Petitioner (Ex. 1038) and find his testimony to be compelling proof of the nonobviousness. Mr. Dispenza (a highly successful cosmetologist) explains that prior to the '954 patent, hair damaged by bleaching was treated after-the-fact with toners, conditioners, oils, and silicones. (Ex. 1038, Dispenza Tr. 67, line 17–Tr. 68, line 3; see also Ex. 2005, pp. 6, 7, and 13; and Ex. 2006, p. 6). However, 118 only masked the underlying problem, and they did not actually repair the damage or prevent it. (Ex. 1038, Dispenza Tr. 102, lines 8–22). A POSITA would

have understood that there was no cure for oxidative bleach damage prior to the '954 patent invention, other than to not bleach the hair.

292. Even Petitioner's declarant (Dr. Wickett) conceded, "bleaching as well as other similar chemical processes such as hair dyeing, permanent waving, etc., have been known to damage hair" (Ex. 1012, ¶22). Petitioner's previous declarant (Mr. Nandagiri) said that same thing. (Ex. 2021, ¶16).

293. Further, the '954 patent says that the invention rebuilds disulfide bonds in keratin found in hair that would otherwise be damaged by chemical treatments such as bleaching. (Ex. 1001, cover page, item (57)). Petitioner's advertisements for its maleic acid bleach additives also tout the ability of maleic acid to strengthen and preserve bonds during hair bleaching. (Ex. 2043, p. 1 ("preserves the strong bonds" and "weak bonds reform"); Ex. 2044, p. 3 ("protect bonds and balance hair's pH"); Ex. 2045, p. 16 ("maleic acid protects the bonds during the chemical process"))).

294. No one else thought to combine a maleic acid active agent into a bleaching mixture before the '954 patent. In addition, the references applied by Petitioner are old. Pratt was applied for in 2009. Tanabe, Berkemer, and KR '564 Berkemer were applied for in 1999, 1964, and 2004, respectively. In other words, the supposed motivation from Berkemer to select maleic and use it in an alkaline bleach mixture existed for fifty years, and yet no one did. Even looking at the most

recent of these references, five years passed after Pratt applied for this patent and before the '954 patent effective filing date, and yet no one thought to modify Pratt's disclosures and to use maleic in an alkaline bleach mixture until the '954 patent inventors did. The reason that the art did not make the selection or modification that Petitioner now proposes is because the Pratt/Tanabe and Pratt/Tanabe/Berkemer/KR '564 combinations were not obvious to a POSITA. The Chairman of Petitioner's corporate parent admitted as much. (Ex. 2069 at LO_USA0035379 (June 29, 2015: "great technological innovation" and "it would have been preferable to invent it ourselves but that was not the case"))).

295. Therefore, it is my opinion that a POSITA would have recognized that there was a long-felt and unmet need for a method to prevent damage and repair damage during oxidative hair bleaching and that need was finally met by the '954 patent invention.

2. Petitioner's Choice to Copy the '954 Patent Invention

296. I have been informed and understand evidence that an invention was copied will support the nonobviousness of that invention. If the invention under consideration would have been obvious to a POSITA based on prior art disclosures, then there would have been no need to copy the invention.

297. I have been asked to give my opinion on whether use of Petitioner's three products ((a) Matrix Bond Ultim8 Step 1 Amplifier; (b) Redken pH-Bonder #1 Bond Protecting Additive; (c) L'Oréal Professionnel Smartbond Step 1 Additive) falls within the scope of '954 patent claim 1.

298. It is my opinion that each of these three products, if used according to their instructions, would practice the method for bleaching hair described in at least claim 1 of the '954 patent and, therefore, embody at least that claim as demonstrated below individually for each product.

299. I also have considered Petitioner's advertisements for these products. Various advertisements feature discussions of maleic acid and its supposed benefits in hair bleaching. (Exs. 2043–2045).

300. I also have reviewed the Declaration of Dean Christal (Ex. 2046), describing how Mr. Christal provided an unpublished patent application (Ex. 1030) to Petitioner's representatives disclosing the method of using a maleic acid active agent in a method of bleaching hair. Thus, Petitioner gained access to a non-public patent application describing the methods of the '954 patent and then shortly thereafter launched three commercial products that use those methods.

301. Below I show that the use of these products as instructed by Petitioner in hair bleaching infringes claim 1 of the '954 patent. I note that this is consistent with the Board's determination in PGR 2017–00012 that Petitioner did, in fact,

copy the features of these products from an unpublished patent application describing the invention of the '954 patent. See *L'Oréal USA, Inc. v. Liqwd, Inc.*, PGR 2017–00012, Paper 102 (PTAB June 27, 2018), p. 30 (“the preponderance of the evidence suggests that Petitioner used maleic acid because of its access to Patent Owner’s non-public information, rather than because of Petitioner’s own independent development.”).

Matrix Bond Ultim8 Step 1

302. Use of Matrix Bond Ultim8 Step 1 according to Petitioner’s instructions provides a method for bleaching or lightening the color of hair. (Ex. 2047, p. 1 (“Helps protect bonds during lightening”)).

303. Use of Matrix Bond Ultim8 Step 1 as instructed involves mixing a bleach powder and a developer to form a bleaching formulation. The instructions for use direct the user to use a two-part bleaching formulation having developer and bleach powder. (Ex. 2047, p. 1; Ex. 2048, p. 2).

304. Use of Matrix Bond Ultim8 Step 1 as instructed involves mixing a maleic acid active agent formulation with the bleaching formulation. The Bond Ultim8 Step 1 label identifies maleic acid as an ingredient. (Ex. 2047, p. 1). The instructions for use direct the user to mix the Bond Ultim8 Step 1 additive with the two-part bleaching formulation having developer and bleach powder. (Ex. 2047, p. 1; Ex. 2048, p. 2).

305. Use of Matrix Bond Ultim8 Step 1 as instructed also involves applying to hair the additive/bleaching formulation mixture. Petitioner expressly instructs users to “[a]pply lightener...as usual” after mixing the maleic acid active agent formulation with the bleaching formulation. (Ex. 2047, p. 1; Ex. 2048, p. 2). The next step in the instructions calls for rinsing the lightener (i.e., the mixture of the bleaching formulation and the additive) out of the hair, which confirms that the mixture had been applied to the hair in the prior step. (Ex. 2048, p. 2).

306. Matrix Bond Ultim8 Step 1 has maleic acid at a concentration of about 10.5 wt. %. (Ex. 2049, 1). Using these test results and/or data, together with Petitioner’s instructions that come with the Bond Ultim8 Step 1, it is possible to determine the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair.

307. The package instructions that accompany Matrix Bond Ultim8 Step 1 include a table which specifies amounts of lightener powder, developer, and Step 1 additive to use when bleaching hair. The relevant portion of that table is reproduced below:

Lightener (grams)	Developer (ml)	Step 1 Additive (ml)
15–30	15–90	4

Lightener (grams)	Developer (ml)	Step 1 Additive (ml)
30–60	30–120	8

(Ex. 2048, 2).

308. The amounts of developer and Bond Ultim8 Step 1 additive are given as volumes. To convert these into a mass, I assumed that the density of each was approximately that of water (1 g/ml). Water is expected to be the major component of these compositions, and I have seen nothing in the ingredient lists, material safety data sheets, or any other information source to suggest otherwise.

309. Thus, the total mass of ingredients in the top row was from a minimum of 34 grams (i.e., 15+15+4) to a maximum of 124 grams (i.e., 30+90+4). Using the NMR testing results (Ex. 2049), I calculated the weight of maleic acid present in 4 ml of Step 1 additive (0.4 grams). From this I calculated the weight percentage of maleic acid present in that mixture to be between 0.3–1.2 wt. %. Following the same process, I determined the weight percentage of maleic acid present in mixtures described in the bottom row of the Table to be between 0.4–1.2 wt. %.

310. This analysis demonstrates that, when Matrix Bond Ultim8 Step 1 is used according to Petitioner's instructions, the concentration of maleic acid

(weight percentage) in the mixture that is applied to the hair is between about 0.1% by weight and about 50% by weight.

311. The following Table 1 summarizes where each element of claim 1 of the '954 patent is practiced by the use of Petitioner's Matrix Bond Ultim8 Step 1 product as instructed:

TABLE 1

<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
1. A method for bleaching hair comprising:	The use of Bond Ultim8 Step 1 according to the instructions provides a method for bleaching or lightening the color of hair. (Ex. 2047, 1 (“treatment helps prevent breakage during lightening services”)).
(a) mixing a bleach powder and a developer to form a bleaching formulation,	<p>Petitioner’s instructions provided on the bottle of Bond Ultim8 Step 1 direct the user to make a two-part bleaching formulation from lightener (bleach powder) and developer:</p> <p>STEP 1: BOND ULTIM8 AMPLIFIER treatment helps prevent breakage during lightening services. To use: Mix your lightener or color, with developer, as usual, before adding STEP 1. LIGHTENER: add 4mL (1/8oz) of STEP 1 for every 15-30 grams (1/2 - 1 oz) of powder or 8 mL (1/4 oz) of BOND ULTIM8 STEP 1 for every 30-60 grams (1 - 2 oz) of powder used in mixture. COLOR: add 4mL (1/8oz) of STEP 1 for every 60 grams (2 oz) of colorant used in mixture. Apply lightener or color as usual. Rinse color from hair – do not shampoo. Dry thoroughly with a towel. Follow with STEP 2. Store Upright. Rinse Syringe after each use.</p> <p>(Ex. 2047, 1 excerpt, with emphasis added.). The words “lightener” and “powder” refer to</p>

<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
	<p>bleach powder.</p> <p>Petitioner's package instructions (included in the box when Bond Ultim8 Step 1 is sold) further describe making bleaching formulation as usual with lightener powder:</p> <p>DIRECTIONS FOR USE:</p> <p>STEP 1: AMPLIFIER</p> <ol style="list-style-type: none"> 1. Mix your lightener or color as usual. 2. Add 4ml of STEP 1 per 15g of lightener powder to the mixture. Use 8ml (1/4 oz.) of STEP 1 when mixing 30g or more of lightener powder. 3. Apply lightener or color as usual. <p>(Ex. 2048, 2 excerpt, with emphasis added.) The words "lightener" and "lightener powder" refer to bleach powder. The bleaching formulation is therefore the combination of bleach powder and developer.</p>
(b) mixing an active	Matrix Bond Ultim8 Step 1 is an active agent formulation comprising an active agent.

<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
<p>agent formulation comprising an active agent with the bleaching formulation to form a mixture,</p>	<p>Petitioner's instructions provided on the bottle of Bond Ultim8 Step 1 direct the user to mix Bond Ultim8 Step 1 with a two-part bleaching formulation:</p> <p>STEP 1: BOND ULTIM8 AMPLIFIER treatment helps prevent breakage during lightening services. To use: Mix your lightener or color, with developer, as usual, before adding STEP 1. LIGHTENER: add 4mL (1/8oz) of STEP 1 for every 15-30 grams (1/2 - 1 oz) of powder or 8 mL (1/4 oz) of BOND ULTIM8 STEP 1 for every 30-60 grams (1 - 2 oz) of powder used in mixture. COLOR: add 4mL (1/8oz) of STEP 1 for every 60 grams (2 oz) of colorant used in mixture. Apply lightener or color as usual. Rinse color from hair – do not shampoo. Dry thoroughly with a towel. Follow with STEP 2. Store Upright. Rinse Syringe after each use.</p> <p>(Ex. 2047, 1 excerpt, with emphasis added.).</p> <p>Petitioner's package instructions (included in the box when Bond Ultim8 Step 1 is sold) further describe mixing the Bond Ultim8 Step 1 additive with the bleaching formulation:</p>

<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
	<p>DIRECTIONS FOR USE:</p> <p>STEP 1: AMPLIFIER</p> <ol style="list-style-type: none"> 1. Mix your lightener or color as usual. 2. Add 4ml of STEP 1 per 15g of lightener powder to the mixture. Use 8ml (1/4 oz.) of STEP 1 when mixing 30g or more of lightener powder. 3. Apply lightener or color as usual. <p>(Ex. 2048, 2 excerpt, with emphasis added.).</p> <p>Use of Bond Ultim8 Step 1 as Petitioner instructs involves mixing an active agent formulation comprising an active agent with a bleaching formulation.</p>
<p>wherein the active agent is maleic acid; and</p>	<p>The label on the Matrix Bond Ultim8 Step 1 lists the ingredients that it contains:</p> <p>1200591-INGREDIENTS: AQUA / WATER, MALEIC ACID, ETHANOLAMINE, CITRIC ACID, CI 19140 / YELLOW 5, CI 14700 / RED 4, CI 42090 / BLUE 1 (D191397/2)</p> <p>(Ex. 2047, 1). The second ingredient is identified as “maleic acid,” which is the active agent.</p>

<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
(c) applying the mixture to the hair;	<p>Petitioner's instructions provided on the bottle (Ex. 2047, 1), and those that are included in the packaging provided with Matrix Bond Ultim8 Step 1 (Ex. 2048, 2), direct the user to "[a]pply lightener...as usual" after mixing the additive into the bleaching formulation. The mixture is being applied to the hair.</p> <p>To the extent this is not self-evident; step "4." of Petitioner's package instructions directs the user to "Rinse lightener...from hair" (which confirms that the mixture is applied to the hair):</p> <p>DIRECTIONS FOR USE:</p> <p>STEP 1: AMPLIFIER</p> <ol style="list-style-type: none"> 1. Mix your lightener or color as usual. 2. Add 4ml of STEP 1 per 15g of lightener powder to the mixture. Use 8ml (¼ oz.) of STEP 1 when mixing 30g or more of lightener powder. 3. Apply lightener or color as usual. 4. Rinse lightener color from hair – do not shampoo. Dry thoroughly with a towel.

<i>Claim Language</i>	<i>Infringement by Use of Matrix Bond Ultim8 Step 1</i>
	(Ex. 2048, 2 excerpt, with emphasis added.) ⁴ Use of Bond Ultim8 Step 1 as instructed involves applying the additive/bleaching formulation mixture to hair.
wherein the active agent in the mixture is at a concentration ranging from about 0.1% by weight to about 50% by weight.	As discussed above, Bond Ultim8 Step 1 contains the active agent maleic acid. Bond Ultim8 Step 1 was tested at an independent laboratory, ANALYZE INC., to determine the amount of maleic acid present in the Bond Ultim8 Step 1. A report from the testing lab determined that the maleic acid was present in the Bond Ultim8 Step 1 bottle at a concentration of about 10.5 ±0.1 % by weight:

⁴ The reference to “lightener color” in item 4 appears to be a typographical error. Consistent with items 1 and 3 of the same instructions, I understand and believe that item 4 should read “lightener or color”.

Claim Language	Infringement by Use of Matrix Bond Ultim8 Step 1														
	<p>Quantitative ¹H NMR spectroscopy was used to determine the concentrations of both the maleic acid (MA) and monoethanolamine (MEA) using calcium formate as the internal standard.</p> <p>The average values of the triplicate NMR assay results are listed in Summary Table I</p> <p>Summary Table I – MA and MEA Assay Results</p> <table><tr><th rowspan="2">Sample ID</th><th>[MA]</th><th>[MEA]</th></tr><tr><th>Wt-%</th><th>Wt-%</th></tr><tr><td>Sample 1 - Redken pH Bonder Step 1</td><td>10.6</td><td>5.5</td></tr><tr><td>Sample 2 - Matrix Bond Ultim 8 Step 1</td><td>10.5</td><td>5.4</td></tr><tr><td>Sample 3 - L'Oreal Smartbond Step 1</td><td>10.2</td><td>5.4</td></tr></table> <p>The precision of the analyses is good with all average values of the triplicate analyses having a standard deviation of less than ± 0.1.</p> <p>(Ex. 2049, 1, with emphasis added; note that ¹H NMR is the acronym for Proton Nuclear Magnetic Resonance Spectroscopy, where such spectroscopy services were performed for ANALYZE INC. by the independent laboratory Spectral Data Systems of Champaign, Illinois.)</p>	Sample ID	[MA]	[MEA]	Wt-%	Wt-%	Sample 1 - Redken pH Bonder Step 1	10.6	5.5	Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4	Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4
Sample ID	[MA]		[MEA]												
	Wt-%	Wt-%													
Sample 1 - Redken pH Bonder Step 1	10.6	5.5													
Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4													
Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4													

Claim Language	Infringement by Use of Matrix Bond Ultim8 Step 1											
	<p>Petitioner’s Matrix Bond Ultim8 Step 1 Instructions (Ex. 2048, 2) contain a table that specifies the amounts of lightener or bleach powder, developer, and Bond Ultim8 Step 1 additive to use when bleaching:</p> <table><tr><th colspan="2">Lightener/Color (as indicated)</th><th>Developer (6.7, 10-40 volume)</th><th>STEP 1 Additive</th></tr><tr><td rowspan="2">Powder</td><td>15g-30g</td><td>15-90ml (½-3 oz.)</td><td>4ml (1/8 oz.)</td></tr><tr><td>30g-60g</td><td>30-120ml (1-4 oz.)</td><td>8ml (1/4 oz.)</td></tr></table> <p>The concentration of active agent in the mixture applied to hair varies from 0.3% by weight to 1.2% by weight, as shown in the table below:</p>	Lightener/Color (as indicated)		Developer (6.7, 10-40 volume)	STEP 1 Additive	Powder	15g-30g	15-90ml (½-3 oz.)	4ml (1/8 oz.)	30g-60g	30-120ml (1-4 oz.)	8ml (1/4 oz.)
Lightener/Color (as indicated)		Developer (6.7, 10-40 volume)	STEP 1 Additive									
Powder	15g-30g	15-90ml (½-3 oz.)	4ml (1/8 oz.)									
	30g-60g	30-120ml (1-4 oz.)	8ml (1/4 oz.)									

Claim Language	Infringement by Use of Matrix Bond Ultim8 Step 1									
		Bleach		Developer		Additive		Maleic acid	Total	Maleic acid
		(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(g)	(wt%)
		15	15	15	4	4	0.42	34.0	1.2%	
		15	90	90	4	4	0.42	109.0	0.4%	
		30	15	15	4	4	0.42	49.0	0.9%	
		30	90	90	4	4	0.42	124.0	0.3%	

Claim Language	Infringement by Use of Matrix Bond Ultim8 Step 1									
		Bleach		Developer		Additive		Maleic acid	Total	Maleic acid
		(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(g)	(wt%)
		30	30	30	8	8	0.84	68.0	1.2%	
		30	120	120	8	8	0.84	158.0	0.5%	
		60	30	30	8	8	0.84	98.0	0.9%	
		60	120	120	8	8	0.84	188.0	0.4%	
	Each of these values is within the range from about 0.1% by weight to about 50% by weight.									

Redken pH-Bonder #1

312. Use of Redken pH-Bonder #1 according to Petitioner’s instructions provides a method for bleaching or lightening the color of hair. (Ex. 2050, 1 “promotes bond integrity” and “helps protect bonds to keep fibers strong from within during technical services” such as lightening).

313. Use of Redken pH-Bonder #1 as instructed involves mixing a bleach powder and a developer to form a bleaching formulation. The instructions for use direct the user to use a two-part bleaching formulation having developer and bleach powder. (*Id.*; Ex. 2051, 2).

314. Use of Redken pH-Bonder #1 as instructed involves mixing a maleic acid active agent formulation with a bleaching formulation. The Redken pH-Bonder #1 label identifies maleic acid as an ingredient. (Ex. 2050, 1). The instructions for use direct the user to mix the pH-Bonder #1 additive with the two-part bleaching formulation having developer and bleach powder. (Ex. 2050, 1; Ex. 2051, 2).

315. Use of Redken pH-Bonder #1 as instructed also involves applying to hair the additive/bleaching formulation mixture to hair. Petitioner expressly instructs users to “[a]pply lightener...as usual” after mixing the maleic acid active agent formulation with the bleaching formulation. (Ex. 2050, 1; Ex. 2051, 2). The next step in the instructions calls for rinsing the lightener (i.e., the mixture of the

bleaching formulation and the additive) out of the hair, which confirms that the mixture had been applied to the hair in the prior step. (Ex. 2050, 1; Ex. 2051, 2).

316. Redken pH-Bonder #1 has maleic acid at a concentration of about 10.6 wt. %. (Ex. 2049, 1). Using these test results and/or data, together with Petitioner's instructions that come with the Redken pH-Bonder #1, it is possible to determine the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair.

317. The package instructions that accompany Redken pH-Bonder #1 include a table which specifies amounts of lightener powder, developer, and pH-Bonder #1 additive to use when bleaching hair. The relevant portion of the table is reproduced below:

Lightener (grams)	Developer (ml)	pH-Bonder #1 Additive (ml)
15-30	15-90	4
30-60	30-120	8

(Ex. 2051, 3).

318. The amounts of developer and pH-Bonder #1 additive are given as a volume. To convert these into a mass, I assumed that the density of each was approximately that of water (1 g/ml). Water is expected to be the major component

of these compositions, and I have seen nothing in the ingredient lists, material safety data sheets, or any other information source to suggest otherwise.

319. Thus, the total mass of ingredients in the top row was from a minimum of 34 grams (i.e., $15+15+4$) to a maximum of 124 grams (i.e., $30+90+4$). Using the NMR testing results (Ex. 2049), I calculated the weight of maleic acid present in 4 ml of pH-Bonder #1 additive (0.4 grams). From this I calculated the weight percentage of maleic acid present in that mixture to be between 0.3–1.2 wt. %. Following the same process, I determined that the weight percentage of maleic acid present in that mixture in the bottom row to be between 0.4–1.2 wt. %.

320. This analysis demonstrates that when Redken pH-Bonder #1 is used according to Petitioner's instructions, the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair is between about 0.1% by weight and about 50% by weight, as claimed in this element.

321. The following Table 2 summarizes where each element of claim 1 of the '954 patent is practiced by the use of Petitioner's Redken pH-Bonder #1 product as instructed:

TABLE 2

<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1</i>
1. A method for bleaching hair comprising:	The use of Redken pH-Bonder #1 according to the instructions provides a method for bleaching or lightening the color of hair. (Ex. 2050, 1 (“protects bonds... during technical services” such a hair lightening or bleaching)).
(a) mixing a bleach powder and a developer to form a bleaching formulation,	<p>Petitioner’s instructions provided on the bottle of Redken pH-Bonder #1 direct the user to make a two-part bleaching formulation from lightener (bleach powder) and developer:</p> <p>pH-Bonder #1 helps protect bonds to keep fibers strong from within during technical services. DIRECTIONS: Wearing suitable gloves, mix your lightener or color as usual. IMPORTANT: Always mix developer and lightener/color before adding pH-Bonder #1. For lightener, add 4 ml of pH-Bonder #1 for every 15-30 grams (1/2-1 oz) of powder or 8 ml of pH-Bonder #1 for every 30-60 grams (1-2 oz) of powder used in mixture. For color, add 4 ml of pH-Bonder #1 for every 60 grams (2 oz) of colorant used in mixture. Apply lightener or color as usual. Rinse lightener or color from hair - do not shampoo. Dry thoroughly with a towel.</p> <p>(Ex. 2050, 1 excerpt, with emphasis added.). The words “powder” and “lightener” refer to bleach powder.</p> <p>Petitioner’s package instructions (included in the box when Redken pH-Bonder #1 is sold)</p>

<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1</i>
	<p>further describe making the bleaching formulation as usual with lightener:</p> <div> </div> <p>(Ex. 2051, 2 excerpt, with emphasis added.) The word “lightener” refers to bleach powder. The bleaching formulation is therefore the combination of bleach powder and developer.</p>
(b) mixing an active agent formulation comprising an active agent with the bleaching formulation	<p>Redken pH-Bonder #1 is an active agent formulation comprising an active agent.</p> <p>Petitioner’s instructions provided on the bottle of Redken pH-Bonder #1 direct the user to mix pH-Bonder #1 with a two-part bleaching formulation:</p> <div> </div>

<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1</i>
to form a mixture,	<p>[Highlighted text reproduced for clarity:]</p> <p>“Wearing suitable gloves, mix your lightener...as usual. IMPORTANT: Always mix developer, and lightener...before adding pH-Bonder #1. For lightener, add 4ml of pH-Bonder #1 for every 15–30 grams (½–1 oz) of powder or 8ml of pH-Bonder #1 for every 30–60 grams (1–2 oz) of powder used in mixture.... Apply lightener...as usual.”</p> <p>(Ex. 2050, 1 excerpt, with emphasis added.).</p> <p>Petitioner’s package instructions (included in the box when Redken pH-Bonder #1 is sold) further describe adding pH-Bonder #1 to the bleaching formulation:</p>


<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1</i>
	<p>(Ex. 2051, 2 excerpt, with emphasis added.).</p> <p>Use of Redken pH-Bonder #1 as Petitioner instructs involves mixing an active agent formulation comprising an active agent with a bleaching formulation.</p>
wherein the active agent is maleic acid;	The label on Redken pH-Bonder #1 lists the ingredients that it contains.

<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1</i>
and	<div> <p>1200591 INGREDIENTS: AQUA/WATER/EAU, MALEIC ACID, ETHANOLAMINE, CITRIC ACID, CI 19140/YELLOW 5, CI 14700/ RED 4, CI 42090/BLUE 1 (D191396/1)</p> </div> <p>(Ex. 2050, 1). The second ingredient is identified as “maleic acid,” which is the active agent.</p>
(c) applying the mixture to the hair;	<p>Petitioner’s instructions provided on the bottle (Ex. 2050, 1), and those that are included in the packaging provided with Redken pH-Bonder #1 (Ex. 2051, 2), direct the user to “[a]pply lightener...as usual” after mixing the additive into the bleaching formulation. The mixture is being applied to the hair.</p> <p>To the extent this is not self-evident, the bottle instructions direct the user to “Rinse lightener...from hair” (which confirms that the mixture is applied to the hair):</p>

<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1</i>
	<p>pH-Bonder #1 helps protect bonds to keep fibers strong from within during technical services. DIRECTIONS: Wearing suitable gloves, mix your lightener or color as usual. IMPORTANT: Always mix developer and lightener/color before adding pH-Bonder #1. For lightener, add 4 ml of pH-Bonder #1 for every 15-30 grams (1/2-1 oz) of powder or 8 ml of pH-Bonder #1 for every 30-60 grams (1-2 oz) of powder used in mixture. For color, add 4 ml of pH-Bonder #1 for every 60 grams (2 oz) of colorant used in mixture. Apply lightener or color as usual. Rinse lightener or color from hair - do not shampoo. Dry thoroughly with a towel.</p> <p>(Ex. 2050, 1 excerpt, with emphasis added.)⁵</p> <p>Use of Redken pH-Bonder #1 as instructed involves applying the additive/bleaching formulation mixture to hair.</p>
<p>wherein the active agent in the mixture is at a concentration ranging from about 0.1% by weight to</p>	<p>As discussed above, Redken pH-Bonder #1 contains the active agent maleic acid. At my direction, Redken pH-Bonder #1 was tested at an independent laboratory, ANALYZE INC., to determine the amount of maleic acid present in the Redken pH-Bonder #1. A report from the testing lab determined that the maleic acid was present in the Redken pH-Bonder #1 bottle at a concentration of about 10.6 ±0.1 % by weight:</p>

⁵ The reference to “color” in item 4 appears to be a typographical error. Consistent with items 1 and 3 of the same instructions, I understand and believe that item 4 should read “lightener or color”.

<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1</i>												
about 50% by weight.	<p>Quantitative ¹H NMR spectroscopy was used to determine the concentrations of both the maleic acid (MA) and monoethanolamine (MEA) using calcium formate as the internal standard.</p> <p>The average values of the triplicate NMR assay results are listed in Summary Table I</p> <p>Summary Table I – MA and MEA Assay Results</p> <table><tr><th>Sample ID</th><th>[MA] Wt-%</th><th>[MEA] Wt-%</th></tr><tr><td>Sample 1 - Redken pH Bonder Step 1</td><td>10.6</td><td>5.5</td></tr><tr><td>Sample 2 - Matrix Bond Ultim 8 Step 1</td><td>10.5</td><td>5.4</td></tr><tr><td>Sample 3 - L'Oreal Smartbond Step 1</td><td>10.2</td><td>5.4</td></tr></table> <p>The precision of the analyses is good with all average values of the triplicate analyses having a standard deviation of less than ± 0.1.</p> <p>(Ex. 2049, 1, with emphasis added; note that ¹H NMR is the acronym for Proton Nuclear Magnetic Resonance Spectroscopy, where such spectroscopy services were performed for ANALYZE INC. by the independent laboratory Spectral Data Systems of Champaign, Illinois.)</p> <p>Petitioner’s Redken pH-Bonder #1 Instructions (Ex. 2051, 3) contain a table that specifies</p>	Sample ID	[MA] Wt-%	[MEA] Wt-%	Sample 1 - Redken pH Bonder Step 1	10.6	5.5	Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4	Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4
Sample ID	[MA] Wt-%	[MEA] Wt-%											
Sample 1 - Redken pH Bonder Step 1	10.6	5.5											
Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4											
Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4											

Claim Language	Infringement by Use of Redken pH-Bonder #1						
	<p>the amounts of lightener or bleach powder (right), developer (middle), and Redken pH-Bonder #1 (left) to use when bleaching:</p> <div><p>POWDER LIGHTENER</p><table><tr><td>15-30g</td><td>15-90ml</td><td>4ml</td></tr><tr><td>30-60g</td><td>30-120ml</td><td>8ml</td></tr></table></div> <p>The concentration of active agent in the mixture applied to hair varies from 0.3% by weight to 1.2% by weight, as shown in the table below:</p>	15-30g	15-90ml	4ml	30-60g	30-120ml	8ml
15-30g	15-90ml	4ml					
30-60g	30-120ml	8ml					

Claim Language	Infringement by Use of Redken pH-Bonder #1									
		Bleach		Developer		Additive		Maleic acid	Total	Maleic acid
		(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(g)	(wt%)
		15	15	15	4	4	0.42	34	1.2%	
		15	90	90	4	4	0.42	109	0.4%	
		30	15	15	4	4	0.42	49	0.9%	
		30	90	90	4	4	0.42	124	0.3%	

<i>Claim Language</i>	<i>Infringement by Use of Redken pH-Bonder #1</i>							
	Bleach		Developer		Additive		Maleic acid	Total
	(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(wt%)
	30	30	30	8	8	0.85	68	1.2%
	30	120	120	8	8	0.85	158	0.5%
	60	30	30	8	8	0.85	98	0.9%
	60	120	120	8	8	0.85	188	0.4%
	Each of these values is within the range from about 0.1% by weight to about 50% by weight.							

L'Oréal Professionnel Smartbond Step 1

322. Use of L'Oréal Professionnel Smartbond Step 1 according to Petitioner's instructions provides a method for bleaching or lightening the color of hair. (Ex. 2052, 1 (“[p]rotects bonds and durably strengthens for a stronger hair during technical service” such as lightening)).

323. Use of L'Oréal Professionnel Smartbond Step 1 as instructed involves mixing a bleach powder and a developer to form a bleaching formulation. The instructions for use direct the user to use a two-part bleaching formulation having developer and bleach powder. (*Id.*; Ex. 2053, 1).

324. Use of L'Oréal Professionnel Smartbond Step 1 as instructed involves mixing a maleic acid active agent formulation with the bleaching formulation. The Smartbond Step 1 label identifies maleic acid as an ingredient. (Ex. 2052, 1). The instructions for use direct the user to mix the Smartbond Step 1 additive with the two-part bleaching formulation having developer and bleach powder. (Ex. 2052, 1; Ex. 2053, 1).

325. Use of L'Oréal Professionnel Smartbond Step 1 as instructed also involves applying to hair the additive/bleaching formulation mixture. Petitioner expressly instructs users to apply the lightener “as usual according to the instructions” after mixing the maleic acid active agent formulation with the bleaching formulation. (Ex. 2052, 1; Ex. 2053, 1). The next step in the instructions

calls for “rins[ing] off” of the lightener (i.e., the mixture of the bleaching formulation and the additive) from the hair, which confirms that the mixture had been applied to the hair in the prior step. (Ex. 2052, 1; Ex. 2053, 1).

326. L'Oréal Professionnel Smartbond Step 1 has maleic acid at a concentration of about 10.2 wt. %. (Ex. 2049, 1). Using these test results and/or data, together with Petitioner's instructions that come with the Smartbond Step 1, it is possible to determine the concentration of maleic acid (weight percentage) in the mixture that is applied to the hair.

327. The package instructions that accompany L'Oréal Professionnel Smartbond Step 1 include a table which specifies amounts of lightener powder, developer, and Smartbond Step 1 additive to use when bleaching hair. The relevant portion of the table is reproduced below:

Lightener Powder (grams)	Developer	Smartbond Step 1 Additive (ml)
15–30	1:1 or 1:1.5 or 1:2	4
30–60		8

(Ex. 2053, 1).

328. The “Developer” column provides mixing ratios describing the relative amount of developer used with the lighter. In a 1:1 mixing ratio, 15 grams of lightener powder are used with 15 milliliters (ml) of developer. In a 1:2 mixing ratio, 15 grams of lightener powder are used with 30 milliliters (ml) of developer. My conclusions would be the same for any of these ratios.

329. The amounts of developer and Smartbond Step 1 additive are given as a volume. To convert these into a mass, I assumed that the density of each was approximately that of water (1 g/ml). Water is expected to be the major component of these compositions, and I have seen nothing in the ingredient lists, material safety data sheets, or any other information source to suggest otherwise.

330. Thus, the total mass of ingredients in the top row was from a minimum of 34 grams (i.e., 15+15+4) to a maximum of 94 grams (i.e., 30+60+4). Using the NMR testing results, I calculated the weight of maleic acid present in 4 ml of Smartbond Step 1 additive (0.4 grams). From this I calculated the weight percentage of maleic acid present in that mixture to be between 0.4–1.2 wt. %. Following the same process, I determined that the weight percentage of maleic acid present in that mixture in the bottom row to be between 0.4–1.2 wt. %.

331. This analysis demonstrates that, when L'Oréal Professionnel Smartbond Step 1 is used according to Petitioner's instructions, the concentration

of maleic acid (weight percentage) in the mixture that is applied to the hair is between about 0.1% by weight and about 50% by weight.

332. The following Table 3 summarizes where each element of claim 1 of the '954 patent is practiced by the use of Petitioner's L'Oréal Professionnel Smartbond Step 1 product as instructed:

TABLE 3

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>
1. A method for bleaching hair comprising:	The use of Smartbond Step 1 according to the instructions provides a method for bleaching or lightening the color of hair. (Ex. 2052, 1 (“[p]rotects bonds and durably strengthens for a stronger hair during technical service” such as lightening)).
(a) mixing a bleach powder and a developer to form a bleaching formulation,	Petitioner’s instructions provided on the bottle of Smartbond Step 1 direct the use of the Smartbond Step 1 additive with a two-part bleaching formulation made from lightener (bleach powder) and developer:

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>
	<p>STEP 1</p> <p>USA - BOND STRENGTHENING SYSTEM ADDITIVE.</p> <p>Suitable for all hair types.</p> <p>DIRECTIONS: To make dosage easier, a graduated dispenser is included in this kit. Use this dispenser for appropriate dosage. Wash the dispenser thoroughly after every use. Always store the bottle in the upright position.</p> <p>1. Mix your lightener or color as usual. Important: Always mix developer and lightener/color before adding Smartbond Step 1.</p> <p>2. For lightener product, add 4 ml (.14 oz) of Step 1 additive for every 15-30 g (1/2-1 oz) or 8 ml of Step 1 additive for every 30-60 g (1-2 oz) of lightening product used in the final mixture.</p> <p>(Ex. 2052, 1 excerpt, with emphasis added.). The words “lightener,” “lightener product,” and “lightening product” refer to bleach powder.</p> <p>Petitioner’s package instructions (included in the box when Smartbond Step 1 is sold) further describe making the bleaching formulation as usual with lightener and developer:</p>

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>#1</p> <div style="border: 1px solid black; padding: 2px;">MIX</div> <p>MIX YOUR LIGHTENER AS USUAL. IMPORTANT: ALWAYS MIX DEVELOPER AND LIGHTENER BEFORE ADDING SMARTBOND STEP 1. ADD 4 ML (.14 OZ) OF STEP 1 ADDITIVE FOR EVERY 15-30 G (1/2-1 OZ) OR 8 ML OF STEP 1 ADDITIVE FOR EVERY 30-60 G (1-2 OZ) OF LIGHTENING PRODUCT USED IN THE FINAL MIXTURE.</p> </div> <div style="text-align: center;"> <p>#2</p> <div style="border: 1px solid black; padding: 2px;">APPLICATION</div> <p>APPLY AS USUAL ACCORDING TO INSTRUCTIONS. RINSE OFF. DO NOT SHAMPOO. TOWEL DRY HAIR WELL TO REMOVE EXCESS MOISTURE.</p> </div> </div> <p>(Ex. 2053, 1 excerpt, with emphasis added.) The words “lightener” and “lightening product” refer to bleach powder. The bleaching formulation is therefore the combination of bleach powder and developer.</p>
(b) mixing an active	L'Oréal Professionnel Smartbond Step 1 is a formulation comprising an active agent.

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>
agent formulation comprising an active agent with the bleaching formulation to form a mixture,	<p>Petitioner's instructions provided on the bottle of Smartbond Step 1 direct the user to mix Smartbond Step 1 with a two-part bleaching formulation:</p> <p>STEP 1 USA - BOND STRENGTHENING SYSTEM ADDITIVE. Suitable for all hair types. DIRECTIONS: To make dosage easier, a graduated dispenser is included in this kit. Use this dispenser for appropriate dosage. Wash the dispenser thoroughly after every use. Always store the bottle in the upright position.</p> <p>1. Mix your lightener or color as usual. Important: Always mix developer and lightener/color before adding Smartbond Step 1.</p> <p>2. For lightener product, add 4 ml (.14 oz) of Step 1 additive for every 15-30 g (1/2-1 oz) or 8 ml of Step 1 additive for every 30-60 g (1-2 oz) of lightening product used in the final mixture.</p> <p>(Ex. 2052, 1 excerpt, with emphasis added.).</p> <p>Petitioner's package instructions (included in the box when Smartbond Step 1 is sold) further describe mixing the Smartbond Step 1 additive with the bleaching formulation:</p>

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>#1</p> <div style="border: 1px solid black; padding: 2px;">MIX</div> <p>MIX YOUR LIGHTENER AS USUAL. IMPORTANT: ALWAYS MIX DEVELOPER AND LIGHTENER BEFORE ADDING SMARTBOND STEP 1. ADD 4 ML (.14 OZ) OF STEP 1 ADDITIVE FOR EVERY 15-30 G (1/2-1 OZ) OR 8 ML OF STEP 1 ADDITIVE FOR EVERY 30-60 G (1-2 OZ) OF LIGHTENING PRODUCT USED IN THE FINAL MIXTURE.</p> <p>(Ex. 2053, 1 excerpt, with emphasis added.).</p> <p>Use of Smartbond Step 1 as Petitioner instructs involves mixing a formulation comprising an active agent with a bleaching formulation.</p> </div> <div style="text-align: center;"> <p>#2</p> <div style="border: 1px solid black; padding: 2px;">APPLICATION</div> <p>APPLY AS USUAL ACCORDING TO INSTRUCTIONS. RINSE OFF. DO NOT SHAMPOO. TOWEL DRY HAIR WELL TO REMOVE EXCESS MOISTURE.</p> </div> </div>
wherein the active	The label on L'Oréal Professionnel Smartbond Step 1 lists the ingredients that it contains:

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>
agent is maleic acid; and	<p>1112405 - INGREDIENTS: AQUA / WATER / EAU • MALEIC ACID • ETHANOLAMINE • CI 19140 / YELLOW 5 • CI 14700 / RED 4 • CI 42090 / BLUE 1. D193050/1.</p> <p>(Ex. 2052, 1). The second ingredient is identified as “maleic acid,” which is the active agent. Smartbond Step 1 therefore has maleic acid as the active agent.</p>
(c) applying the mixture to the hair;	<p>Petitioner’s instructions provided on the bottle (Ex. 2052, 1), and those that are included in the packaging provided with L'Oréal Professionnel Smartbond Step 1 (Ex. 2053, 1), direct the user to “[a]pply lightener...as usual” after mixing the additive into the bleaching formulation. The mixture is being applied to the hair.</p> <p>To the extent this is not self-evident; the label instructions confirms that the mixture is applied to the hair because they direct the user to “Rinse thoroughly lightener...from hair” (which confirms that he mixture is applied to the hair):</p> <p>3. Apply lightener or color mixture as usual. Rinse thoroughly lightener or color mixture from hair.</p>

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>
	(Ex. 2052, 1 excerpt, with emphasis added). Use of Smartbond Step 1 as instructed involves applying the additive/bleaching formulation mixture to hair.
wherein the active agent in the mixture is at a concentration ranging from about 0.1% by weight to about 50% by weight.	As discussed above, Smartbond Step 1 contains the active agent maleic acid. Smartbond Step 1 was tested at an independent laboratory, ANALYZE INC., to determine the amount of maleic acid in the Smartbond Step 1. A report from the testing lab determined that the maleic acid was present in the Smartbond Step 1 bottle at a concentration of about 10.2 ± 0.1 % by weight:

Claim Language	Infringement by Use of L'Oréal Professionnel Smartbond Step 1														
	<p>Quantitative ¹H NMR spectroscopy was used to determine the concentrations of both the maleic acid (MA) and monoethanolamine (MEA) using calcium formate as the internal standard.</p> <p>The average values of the triplicate NMR assay results are listed in Summary Table I</p> <p style="text-align: center;">Summary Table I – MA and MEA Assay Results</p> <table><tr><th rowspan="2">Sample ID</th><th>[MA]</th><th>[MEA]</th></tr><tr><th>Wt-%</th><th>Wt-%</th></tr><tr><td>Sample 1 - Redken pH Bonder Step 1</td><td>10.6</td><td>5.5</td></tr><tr><td>Sample 2 - Matrix Bond Ultim 8 Step 1</td><td>10.5</td><td>5.4</td></tr><tr><td>Sample 3 - L'Oreal Smartbond Step 1</td><td>10.2</td><td>5.4</td></tr></table> <p>The precision of the analyses is good with all average values of the triplicate analyses having a standard deviation of less than ± 0.1.</p> <p>(Ex. 2049, 1, with emphasis added; note that ¹H NMR is the acronym for Proton Nuclear Magnetic Resonance Spectroscopy, where such spectroscopy services were performed for ANALYZE INC. by the independent laboratory Spectral Data Systems of Champaign, Illinois.)</p> <p>Petitioner's Smartbond Step 1 Instructions (Ex. 2053, 1) contain a table that specifies the</p>	Sample ID	[MA]	[MEA]	Wt-%	Wt-%	Sample 1 - Redken pH Bonder Step 1	10.6	5.5	Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4	Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4
Sample ID	[MA]		[MEA]												
	Wt-%	Wt-%													
Sample 1 - Redken pH Bonder Step 1	10.6	5.5													
Sample 2 - Matrix Bond Ultim 8 Step 1	10.5	5.4													
Sample 3 - L'Oreal Smartbond Step 1	10.2	5.4													

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>																				
	<p>amounts of lightener or bleach powder, developer, and Smartbond Step 1 additive to use when bleaching hair:</p> <table><tr><th>LIGHTENER PRODUCTS</th><th>QUANTITY OF PRODUCT</th><th>DEVELOPER</th><th>STEP 1</th></tr><tr><td rowspan="2">Lightening Oil</td><td>30 ml (1.01 oz)</td><td rowspan="2">1:2</td><td>2 ml (.07 oz)</td></tr><tr><td>60 ml (2.03 oz)</td><td>4 ml (.14 oz)</td></tr><tr><td rowspan="2">Powder / Pastes</td><td>15-30 g</td><td rowspan="2">1:1 or 1:1.5 or 1:2</td><td>4 ml (.14 oz)</td></tr><tr><td>30-60 g</td><td>8 ml (.28 oz)</td></tr><tr><td>Blond Studio Majimèches</td><td>1 sachet</td><td>1:1:1</td><td>4 ml (.14 oz)</td></tr></table> <p>The concentration of active agent in the mixture varies from 0.3% by weight to 1.2% by weight, as shown in the table below:</p>	LIGHTENER PRODUCTS	QUANTITY OF PRODUCT	DEVELOPER	STEP 1	Lightening Oil	30 ml (1.01 oz)	1:2	2 ml (.07 oz)	60 ml (2.03 oz)	4 ml (.14 oz)	Powder / Pastes	15-30 g	1:1 or 1:1.5 or 1:2	4 ml (.14 oz)	30-60 g	8 ml (.28 oz)	Blond Studio Majimèches	1 sachet	1:1:1	4 ml (.14 oz)
LIGHTENER PRODUCTS	QUANTITY OF PRODUCT	DEVELOPER	STEP 1																		
Lightening Oil	30 ml (1.01 oz)	1:2	2 ml (.07 oz)																		
	60 ml (2.03 oz)		4 ml (.14 oz)																		
Powder / Pastes	15-30 g	1:1 or 1:1.5 or 1:2	4 ml (.14 oz)																		
	30-60 g		8 ml (.28 oz)																		
Blond Studio Majimèches	1 sachet	1:1:1	4 ml (.14 oz)																		

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>							
			Bleach		Developer		Additive	
			(g)	(ml)	(g)	(ml)	(g)	Maleic acid
			(g)	(g)	(g)	(g)	(g)	Total
			(g)	(g)	(g)	(g)	(g)	Maleic acid
			(g)	(g)	(g)	(g)	(g)	(wt%)
			15	15	15	4	4	0.41
			15	22.5	22.5	4	4	0.41
			15	30	30	4	4	0.41
			30	30	30	4	4	0.41
			30	45	45	4	4	0.41
			30	60	60	4	4	0.42
			34	34	34	34	34	34
			41.5	41.5	41.5	41.5	41.5	41.5
			49	49	49	49	49	49
			64	64	64	64	64	64
			79	79	79	79	79	79
			94	94	94	94	94	94

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>							
	Bleach		Developer		Additive		Maleic acid	Total
	(g)	(ml)	(g)	(ml)	(g)	(g)	(g)	(wt%)
	30	30	30	8	8	0.82	68	1.2%
	30	45	45	8	8	0.82	83	1.0%
	30	60	60	8	8	0.82	98	0.8
	60	60	60	8	8	0.82	128	0.6%
	60	90	90	8	8	0.82	158	0.5%
	60	120	120	8	8	0.82	188	0.4%
	Each of these values is within the range from about 0.1% by weight to about 50% by							

<i>Claim Language</i>	<i>Infringement by Use of L'Oréal Professionnel Smartbond Step 1</i>
	weight.

333. Accordingly, it is my opinion that each of Petitioner’s three products (Matrix Bond Ultim8 Step 1 Amplifier; Redken pH-Bonder #1 Bond Protecting Additive; L’Oréal Professionnel Smartbond Step 1 Additive) have in fact copied the patented features of 954 patent claim 1, and infringe at least that claim.

334. I am informed that Petitioner has previously argued that its copying of Patent Owner’s patented technology is not evidence of nonobviousness because Patent Owner did not establish that Petitioner’s products were copied from Patent Owner’s commercial product.

335. Shortly before meeting with Mr. Christal and Dr. Pressly on May 19, 2015, one of Petitioner’s executives explained the state of Petitioner’s knowledge:

- “Labs believe that there is something really new and different here” (referring to the Olaplex product)
- “The Olivia [a coded reference to Patent Owner’s technology] and OA P1 are completely different.”
- Petitioner “do[es] not know that [technologies Petitioner was attempting to patent] would work to create a customer benefit.”
- Another of Petitioner’s executives “also wants to keep working while we are receiving confidential information under the NDA, again the [sic] relying on the Chinese wall.”

- Another of Petitioner’s executives “believes the [Petitioner] Labs are not really close to a solution either with OA P1 or with a technology near Olivia.”

(Ex. 2067 at LO_USA0056223).

336. After the meeting with Mr. Christal and Dr. Pressly, Petitioner provided a positive assessment of “Project Olivia.” A June 18, 2015 presentation describes Petitioner’s strategic interest continued to be “[a]cquir[ing] an original, patented technology” (i.e., Patent Owner’s technology). (Ex. 2068 at LO_USA0002427). Although there had been the “multiplication of copycats since Jan 2015” coming to the market, but “none with the same impact.” (*Id.* at LO_USA0002423–24).

337. Eleven days later, the Chairman of Petitioner’s corporate parent (Jean-Paul Agon) commented that “This is a great technological innovation” and “[i]t would have been preferable to invent it ourselves but that was not the case.” (Ex. 2069 at LO_USA0035379). Petitioner’s Chairman framed the choice as either Petitioner’s research and innovation “guarantee that it is able to develop an equivalent product within 12 months” or “we have to buy it.” (*Id.*).

338. In my opinion, Petitioner’s copying of the ’954 patent invention from Patent Owner instead of developing it from the references from which it claimed

the invention would have been obvious, is powerful evidence that confirms the patentability and nonobviousness of the challenged '954 patent claims.

3. Commercial Success of Petitioner's Copy Products

339. In my opinion, the '954 patent invention has exhibited commercial success directly resulting from use the invention of '954 patent claim 1.

Petitioner's three products, which practice claim 1 of the '954 patent when used as Petitioner instructs as shown in the preceding section, have exhibited commercial success directly resulting from incorporation of the claimed invention.

340. Prior to May 2014, I am not aware that Petitioner or any third party was selling a product with instructions to practice the method of the '954 patent claim 1. As discussed in Section XI.E.2 (above), I have determined that use of Petitioner's Matrix Bond Ultim8 Step 1 Amplifier; (b) Redken pH-Bonder #1 Bond Protecting Additive; (c) L'Oréal Professionnel Smartbond Step 1 Additive as instructed practice the method of '954 patent claim 1.

341. Based on my review of the sales figures contained in Exhibit 2070 (at pages 8–10 and, 27–28), Petitioner's sales of these products have been significant (generating \$10.2 million in review between 2016 and February 2018). A POSITA would have understood that the great commercial success of Petitioner's copy products is based on the benefits provided by practicing the method of claim 1 of

the '954 patent, which are practiced by each Petitioner's products when they are used as instructed.

342. It is my opinion that practicing the method of claim 1 of the '954 patent contributed significantly to the commercial success of Petitioner's copy products.

343. Accordingly, the commercial success of Petitioner's copy products which use the invention of '954 patent claim 1 confirms the patentability and nonobviousness of at least '954 patent claim 1.

4. Unexpected Results Provided by the '954 Patent Invention

344. In my opinion, the unexpected results provided by using the method of '954 patent claim 1 invention also confirm the patentability and nonobviousness of at least that claim.

345. Patent Owner has results of experiments to the Patent Office showing that various concentrations of maleic acid when used as described in '954 patent claim 1 provides significant benefits when added to an alkaline bleaching mixture:

Description	Exhibit
Maleic acid at 2.8 wt% concentration in bleaching mixture provided “noticeable different in hair quality” and “hair was softer, less frizzy, appeared hydrated, with more shine than the control.”	Ex. 1001, Col. 22, line 38–Col. 23, line 17 (Example 3)
Maleic acid at 1.1 wt% concentration in bleaching mixture reduced hair breakage, improved the feel of the hair, and provided an overall healthy appearance, while similar carboxylic acids and other chemicals did not.	Ex. 2038, pp. 4–6
Maleic acid at 0.1 wt%, 0.7 wt%, and 5 wt% concentrations improved hair quality (breakage, feel, and appearance) while equivalent concentrations of citric acid did not.	Ex. 2041, ¶¶6–10

346. These results demonstrate the benefits of a maleic acid active agent in a bleaching mixture over the concentration range from 0.1 wt% to 5 wt%. Given the consistent benefit provided by this active agent at five different concentrations

within that range, a POSITA would have expected that benefit to persist at higher concentrations of active agent throughout the range in claim 1 of the '954 patent.

347. These results show that the invention of '954 patent claim 1 provides a tangible benefit in terms of improving the quality of bleached hair over the claimed range of active agent concentrations. A POSITA would not have expected a maleic acid active agent to have had this effect, which confirms the patentability and nonobviousness of at least '954 patent claim 1.

5. Skepticism and Praise by Others of the '954 Patent Invention

348. In my opinion, the expressions of skepticism and praise of those skilled in the art further confirms the patentability and nonobviousness of '954 patent claim 1.

349. During prosecution, the Patent Examiner was initially skeptical that the selection of maleic acid out of the group of known di- and tri-carboxylic acids was inventive. To quell her concerns, the Examiner requested evidence in the form a declaration with experimental results showing that a small change in the chemical structure of the active agent (for example going from citric acid to maleic acid) actually produced a significant improvement in the quality of the hair following bleaching. (Ex. 2037, p. 2). That declaration was filed on October 29, 2015, and it showed a bleaching mixture with about 1.1 wt% maleic acid reduced

hair breakage, improved the feel of the hair, and provided an overall healthy appearance, while similar carboxylic acids and other chemicals did not. (Ex. 2038, pp. 4–6). The Examiner then allowed the pending claims and explained “[o]ne of ordinary skill in the art would not have expected the significant difference in hair quality (breakage, feel, and appearance)” resulting from the use of maleic acid. (Ex. 2039, p. 10). This led to the issuance of the related ’926 patent.

350. Then, during prosecution of the ’455 application, the Examiner again requested data showing the unique benefits of using maleic acid during a hair bleaching method as compared with similar chemicals. (Ex. 2040, p. 3). An August 6, 2018 declaration by Dr. Pressly details a series of experiments showing the unexpected results provided by maleic acid or salts thereof as compared with other common acids or salts thereof (e.g., citric acid). (Ex. 2041, ¶5). The Examiner went on to explain that Dr. Pressly’s declaration (Ex. 2041) “is persuasive to establish the unexpectedness of maleic acid compared to conventional acids utilized as pH adjusters, namely citric acid.” (Ex. 2042, p. 8). This led to the issuance of the related ’478 patent.

351. Thus, the Patent Examiner who is an expert in the technical field of the ’954 patent, was initially skeptical that maleic acid could actually provide a benefit over similar chemicals, which confirms the patentability and nonobviousness of at least ’954 patent claim 1.

352. The invention of claim 1 of the ‘954 patent has also received industry praise (from no less than the Chairman of Petitioner’s corporate parent), who said Patent Owner’s invention “is a great technological innovation, which can be extremely creative value..., to give [Petitioner] a major competitive advantage.” (Ex. 2069 at LO_USA0035379). This technology was a “must have.” (*Id.*; see also Ex. 2071 at LO_USA0026489 (“this is [the] greatest opportunity I’ve seen at L’Oréal in 30 years.”))

353. These statements of praise from Petitioner recognize that the Patent Owner’s technology is both valuable and innovative.

354. In view of such skepticism from the independent patent examiner and the strong praise from a sophisticated competitor for the claimed invention, these objective indicia support the conclusion that claim 1 of the ‘954 patent is nonobvious.

F. GROUND #1 & #3: THE HAIR BLEACHING METHOD OF ‘954 PATENT CLAIMS 2–16, 18, 19, 21, AND 23–30 WOULD NOT HAVE BEEN OBVIOUS TO A POSITA AS OF MAY 16, 2014 IN LIGHT OF PRATT IN VIEW OF TANABE

355. In my opinion, Petitioner also has failed to establish that claims 2–16, 18, 19, 21 and 23–30 would have been unpatentable as obvious over either Pratt/Tanabe or Pratt/Tanabe/Berkemer/KR ‘564.

356. I detail above in Sections XI.A and XI.C that '954 patent claim 1 is not rendered unpatentable as obvious by these combinations of references. Because I have determined that claim 1 of the '954 patent would not have been obvious to a POSITA, I am informed and understand that no dependent claim of the '954 patent can be found to have been obvious. For at least that reason, claims 2–16, 18, 19, 21 and 23–30 of the '954 patent are patentable.

XII. CONCLUSION

357. Accordingly, it is my opinion that the Board should uphold the patentability of the '954 patent claims.

I declare, under the penalty of perjury, that the foregoing is true and correct.

Executed on November 16, 2018, at Westerville, Ohio.

A handwritten signature in black ink, appearing to read 'E. Borish', is written over a horizontal line.

Edward T. Borish, Ph.D.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 1:17-cv-00014-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA	)	FILED UNDER SEAL
S/D, INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

PLAINTIFFS' REPLY IN FURTHER SUPPORT OF THEIR MOTION *IN LIMINE* NO. 2 TO PRECLUDE REFERENCE TO OR USE OF POST GRANT REVIEW PROCEEDINGS RELATING TO THE PATENTS-IN-SUIT

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May 13, 2019

Plaintiffs’ (“Olaplex”) Motion acknowledged that the relief would apply to all parties (Mot. at 1 n.1) and never objected to this Court’s order extending to all parties. *Cf.* Opp. at 1. L’Oréal’s contrary claim is unfounded. First, L’Oréal’s reliance on *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340 (Fed. Cir. 2004) (Mot. at 1) as a basis for admitting the PGR results is misplaced since that case does not concern the admission of PGR (or any type of PTAB proceeding) evidence before a jury at all. Second, L’Oréal’s assertion that “PGR proceedings . . . are relevant to both Plaintiffs’ and Defendants’ claims and defenses” is belied by the wealth of authority cited by Olaplex establishing the opposite. Mot. at 2-3. Even so, the risk of misuse would trigger exclusion under Rule 403. L’Oréal’s third point (Opp. at 1-2) is mislaid: Olaplex’s position is not that **evidence** must be excluded simply because it happened to be submitted in a PGR proceeding. Rather, Olaplex’s seeks an order, just as this Court entered in *Hologic, Inc. v. Minerva Surgical*, 2018 WL 3348998 (D. Del. July 9, 2018), precluding reference to “the PTAB’s substantive proceeding, findings, and decision.” *Id.* at *4. For the same reason, L’Oréal’s fourth point (Opp. at 2-3) fails. The relief requested would not preclude use of prior witness declarations and depositions taken in connection with PGR proceedings. However, if L’Oréal seeks to offer such evidence in this proceeding, it should be precluded from informing the jury that they were submitted in PGR proceedings or the results thereof. *See* Mot. at 2-3 (collecting cases). Finally, L’Oréal mischaracterizes this Court’s *Hologic* decision granting the same relief Olaplex requests here. The *Hologic* decision did not find that PGR proceedings were relevant to intent or willfulness, but found those issues moot based on Rule 56 rulings. *Id.* at *4. *Hologic* held:

[B]ecause the patent office proceeding and decision are not binding ... the prejudicial and confusing effect of the evidence almost certainly outweighs any probative value.... The substance of the proceeding and decision will not be admitted.

Id. The same results should follow here. Olaplex requests this Court grant its Motion.

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May 13, 2019

CERTIFICATE OF SERVICE

I hereby certify that on May 13, 2019, copies of the foregoing were caused to be served upon the following in the manner indicated:

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 17-14 (JFB) (SRF)
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D,	)	FILED UNDER SEAL
INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' MOTION *IN LIMINE* NO. 3 TO PRECLUDE REFERENCE TO
L'ORÉAL'S PATENTS AS EVIDENCE OF NON-INFRINGEMENT**

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Defendants (“L’Oréal”) should be precluded from referencing or using at trial its own patents and patent applications (including prosecutions histories) to argue or suggest that L’Oréal does not infringe Olaplex’s Patents-in-Suit.

I. BACKGROUND

Plaintiffs (“Olaplex”) claim that L’Oréal infringes U.S. Patent No. 9,498,419 (“’419 Patent”) and No. 9,668,954 (“’954 Patent”). D.I. 636, at 25-37.¹

II. PRECLUSION IS THE APPROPRIATE REMEDY

This case concerns L’Oréal’s infringement of Olaplex’s ’419 and ’954 Patents. At trial, the jury will be asked to determine whether use of L’Oréal’s Accused Product satisfies all elements of the Patents-in-Suit by comparing the claim terms, as construed by the Court, to the Accused Product and the usage thereof. L’Oréal’s own patents (allegedly covering the Accused Products or not) do not bear upon this inquiry. The law is clear on this point. *See Bio-Tech. Gen. Corp. v. Genentech, Inc.*, 80 F.3d 1553, 1559 (Fed. Cir. 1996) (“That [defendants] patented its [accused] method is irrelevant: ‘The existence of one’s own patent does not constitute a defense to infringement of someone else’s patent.’” (citation omitted)); *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 807 F.3d 1283, 1300-01 (Fed. Cir. 2015) (“[T]he facts that [the defendant] sought and obtained patents gave it no defense to patent infringement”); *Sonos, Inc. v. D&M Holdings Inc.*, 2017 WL 5633204, at *1 (D. Del. Nov. 21, 2017) (“The fact that [defendants] ha[ve] patents in the same technological field is not a defense to infringement”).

Reference, use, or introduction of L’Oréal’s patents at trial to suggest they are exculpatory would confuse the jury by implying that L’Oréal would not have received its patents

¹ The parties are exchanging initial exhibits lists concurrently with this filing. As such, Olaplex cannot yet identify any specific trial exhibits to which this Motion applies.

if its products using that patented technology infringed Olaplex's patents. That, of course, is a legally erroneous assumption—a product can practice more than one patent. *See, e.g., Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1580 (Fed. Cir. 1984). Further, disputes at trial about the scope and validity of L'Oréal's patents, which are not asserted and have not been subject of claim construction or other motions practice, would greatly compound the confusion. *See Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc.*, 2000 WL 34334583, at *6 (N.D. Cal. Mar. 31, 2000) (“Had the Court allowed this evidence . . . the trial would have devolved into a series of collateral disputes dealing with the scope and validity of each of [defendant's] asserted patents. The Court is satisfied that it did not abuse its discretion in excluding evidence that the [accused product] was covered by [defendant's] patents.”).

Courts have repeatedly excluded an infringer's patents under Rule 403 due to the potential prejudice to the plaintiff and the high risk of jury confusion. “The fact that [defendants] ha[ve] patents . . . could mislead the jury into believing that [defendants'] patents give it the right to practice technology that is covered by those patents . . .” *Sonos, Inc.*, 2017 WL 5633204, at *1. This would improperly “shift the focus of the trial from the validity and infringement of [the plaintiff's] patent to the validity of [the defendant's] patent” thereby “distracting and confusing

. . . the jury, while providing little, if any, relevant information.” *Cameco Indus., Inc. v. La. Cane Mfg., Inc.*, 1995 WL 468234, at *6 (E.D. La. July 27, 1995) (excluding defendant's patent because they were “unfairly prejudicial to the plaintiff”). This Court has recently issued an order *in limine* to prevent this form of evidence from reaching the jury “as to evidence that relates to infringement or embodiment” in a patent infringement case. *See Hologic, Inc. v. Minerva Surgical, Inc.*, 2018 WL 3348998, at *5 (D. Del. July 9, 2018) (“Minerva's patents will not be

admitted to show or suggest that the fact that Minerva obtained a patent means they do not infringe Hologic's patent.").

III. CONCLUSION

Olaplex respectfully requests that the Court grant this motion and enter an order precluding L'Oréal from referencing or using at trial its own patents and patent applications (and prosecutions histories) to argue or suggest that they show L'Oréal does not infringe.

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FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL
PRODUCTS, INC., L'ORÉAL USA S/D, INC.,	)	FILED UNDER SEAL
and REDKEN 5 TH AVENUE NYC, LLC,)	
)	
Defendants.)	

DEFENDANTS' RESPONSE TO PLAINTIFFS'
MOTION IN LIMINE NO. 3 TO PRECLUDE REFERENCE TO
L'OREAL USA'S PATENTS AS EVIDENCE OF NON-INFRINGEMENT

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Plaintiffs' motion is largely moot as Defendants do not intend to introduce L'Oréal patents and patent applications for the narrow purpose suggested by Plaintiffs—that Defendants would not have received their patents if their products using that patented technology infringed Olaplex's patent. (Olaplex MIL No. 3 at 1-2.) However, L'Oréal patents and patent applications are relevant for other purposes and thus reference to and use of those patents and patent applications should not be entirely precluded.

For instance, Plaintiffs themselves have made L'Oréal's patents and patent applications relevant to Plaintiffs' claims of trade secret misappropriation. (*See, e.g.*, D.I. 732 at 1 (arguing "L'Oréal [USA] skipped many months of research, and applied for a patent claiming Olaplex's technology..."), 5, 7, 15 (referring to Defendants' "patent efforts"), 19; D.I. 734, Ex. 116; D.I. 706, Ex. C at ¶¶ 65, 76 n.1, 82 (referring to Defendants' patent applications).) Although Plaintiffs quote a portion of this Court's decision in *Sonos, Inc. v. D&M Holdings Inc.*, No. 14-cv-1330-WCB, 2017 WL 5633204 (D. Del. Nov. 21, 2017), they ignore the relevant portion that would allow use of a defendant's patents if the plaintiff "first opens the door to any such evidence, such as by stating that [defendant] lacks its own technology and therefore must rely on stealing technology from [plaintiff]." *Id.* at *1. To date, Plaintiffs' trade secret misappropriation claims have used L'Oréal's patents and patent applications against Defendants. Defendants must have the opportunity to defend themselves at trial with reciprocal use.

In addition, because Plaintiffs have highlighted the relevancy of L'Oréal's patent applications, reference to and use of any patents granted from those applications should be allowed to prevent any prejudice by the suggestion that no patents were granted from these applications. *See Wonderland NurseryGoods Co. v. Thorley Indus., LLC*, No. 12-cv-196, 2014 WL 241751, at *2 (W.D. Pa. Jan. 22, 2014). ("The Court finds that it is unfairly prejudicial to

[defendant] to admit the published patent applications without admitting the corresponding granted patents because it suggests to the jury that [defendant] did not receive patents for its research and work in attempting to patent features of the accused [] device.”).

Furthermore, reference to and use of such patents and applications is relevant and proper to address technical features relating to the accused products, including the “synergistic” features relating to those products that Plaintiffs have suggested is a “litigation-driven concept made out of whole cloth by counsel and adopted by L’Oréal[USA’s] expert.” (D.I. 757 at 7.) As explained by Defendants, this narrative is decisively refuted by Defendants’ independent product development documentation as well as Defendants’ patents and patent applications. (D.I. 775 at 2.)

For the foregoing reasons, Defendants respectfully request this Court deny Plaintiffs’ motion *in limine*.

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IN THE UNITED STATES DISTRICT COURT
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)	
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)	
v.)	C. A. No. 1:17-cv-00014-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA)	FILED UNDER SEAL
S/D, INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' REPLY IN FURTHER SUPPORT OF MOTION IN LIMINE NO. 3 TO
PRECLUDE REFERENCE TO L'ORÉAL'S PATENTS AS EVIDENCE OF NON-
INFRINGEMENT**

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Defendants (“L’Oréal”) concede in their Opposition brief that the narrow relief Plaintiffs (“Olaplex”) seek through their Motion is appropriate. Opp. at 1. Olaplex purposefully sought narrow, circumscribed relief by way of its Motion—seeking the exclusion of evidence regarding L’Oréal’s patents for a particular, improper purpose. Mot. at 3. The supposedly relevant purposes for which L’Oréal states it intends to use its own patents and patent applications, which concern Olaplex’s trade secret claims, not its patent claims, (Opp. at 1-2) fall outside that requested relief.¹

L’Oréal calls this motion “largely moot” because it does not “intend to introduce L’Oréal patents and patent applications for the narrow purpose suggested by Plaintiffs” Opp. at 1. That does not make this motion “moot,” it makes it *uncontested*. The Court should enter the order requested by Olaplex outright, ensuring L’Oréal does not alter its position at trial and make improper argument to the jury.

¹ Olaplex reserves the right to object at trial to L’Oréal’s introduction of its own patents or patent applications for the purposes L’Oréal describes in its Opposition, and does not concede that the use of L’Oréal’s patents at trial is permissible or appropriate.

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PRODUCTS, INC., L'ORÉAL USA S/D,)	FILED UNDER SEAL
INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' MOTION IN LIMINE NO. 4 TO PRECLUDE USE OF ALLEGED
"FALSE ADVERTISING" POSTS OR ACCOUNTS BEYOND THOSE SPECIFICALLY
IDENTIFIED IN L'ORÉAL'S PLEADINGS AND EXPERT REPORTS**

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Defendants (“L’Oreal”) should be precluded from using at trial any evidence of or arguing the existence of allegedly “fake” online posts or online accounts which were not specifically identified in the Expert Report of Peter Smith.

I. BACKGROUND

L’Oreal filed its Lanham Act false advertising Counter-Claim after the close of discovery. *See* D.I. 608. Notwithstanding, the Pleading (as filed, and as amended on February 8, 2019 (D.I. 650)), utterly lacks specificity regarding the identity of the alleged false advertisements at issue in the case. Olaplex sought bifurcation, in part to allow discovery and responses to contention interrogatories. *See* D.I. 616. L’Oreal stridently opposed (D.I. 625) and the Magistrate denied the request (D.I. 634). No fact discovery was permitted on the Counter-claim. Accordingly, as of the date hereof, L’Oreal has not identified the evidence it will use to support this claim—and, critically, the identity of the alleged false advertisements at issue. This is crucial because the Lanham Act requires proof of “injury ***flowing directly*** from the deception wrought ***by the defendant’s advertising***,” *Lexmark Int’l v. Static Control Components, Inc.*, 572 U.S. 118, 133 (2014) (emphasis added), which requires “establishing a causal link between its alleged injury and [Olaplex’s] ***specific misrepresentations***,” *Larry Pitt & Assocs. v. Lundy Law LLP*, 294 F. Supp. 3d 329, 341 (E.D. Pa. 2018) (emphasis added). Olaplex has shown that the Lanham Act claim is ripe for Summary Judgment. D.I. 682. In the event the claim does proceed to trial, to avoid quintessential “trial by ambush,” L’Oreal should be precluded from offering into evidence (or suggesting the existence of) any alleged instances of false advertising (*e.g.*, “fake posts,” “fake accounts,” or articles without attribution) that have not been specifically identified in the Pleading, expert discovery, and in briefing on Summary Judgment.

Specifically, L’Oreal should be precluded from introducing anything other than the 25 posts identified, marked as exhibits, and served with the expert report of Peter Smith (D.I. 720,

Ex. 9, “Smith Report”), and alleged additional false advertisements cited in the Opposition to Olaplex’s Summary judgment motion (D.I. 758). Mr. Smith opines that the “accounts identified in documents produced by Olaplex in this case made 19 posts regarding Olaplex and 6 posts regarding L’Oreal USA and its products that [he] was able to locate,” Smith Report at ¶ 8, and he attached copies of those posts to his Report, *id.* Exs. A - I-12. Those posts have been sufficiently identified.¹ To the extent L’Oreal contends that it has specifically identified other false advertising posts that should not be subject to this limiting order, L’Oreal appropriately bears the burden of identifying them to Olaplex and this Court.

II. PRECLUSION IS THE APPROPRIATE REMEDY

If the Lanham Act claim proceeds to trial, it should be limited to alleged false advertisements that L’Oreal has actually identified and disclosed. To do otherwise invites unfair surprise and prejudice to Olaplex. This situation—first revealing alleged false advertisements at trial—is akin to failing to identify a witness, and the factors set out in *Meyers v. Pennypack Woods HOA*, 599 F.2d 894, 904-05 (3d. Cir. 1997) are instructive. First, “prejudice or surprise” to Olaplex is high—social media contains millions of posts referencing Olaplex and/or the Accused Products. Olaplex cannot prepare to defend itself against all (even most) unidentified posts. Second, L’Oreal cannot now cure its non-identification: discovery is closed; summary judgment has been filed; the case is at the eve of trial. Third, disruption at trial will be significant. *See Ollier v. Sweetwater Union High Sch. Dist.*, 768 F.3d 843, 863 (9th Cir. 2014) (“late disclosure ... throws a wrench into the machinery of trial.”). An order *in limine* is appropriate because this undisclosed evidence (alleged false advertisements not previously

¹ Olaplex may raise challenges to any specific post if and when L’Oreal moves to offer one into evidence, based on context, use, and other appropriate factors. *Accord* D.I. 769 at 2 & n.1.

identified) would be “inadmissible on all potential grounds.” *Leonard v. Stemtech Health Scis., Inc.*, 981 F. Supp. 2d 273, 276 (D. Del. 2013). Introducing undisclosed “advertisements” into evidence or suggesting more exist would work unfair prejudice as “trial by ambush.” Indeed, the Federal Rules of Civil Procedure exist “in part, to eliminate the element of ‘surprise’ in litigation,” and “surprise during trial, by major variance in theory of recovery or defense, undisclosed until after trial is underway, is a long-established ground for granting a new trial motion.” *Becton Dickinson & Co. v. Tyco Healthcare Grp. LP*, 2006 WL 890995, at *9–10 (D. Del. Mar. 31, 2006) (internal citations omitted). This is not a situation where review of the trial evidence, as it unfolds, is necessary to decide an evidentiary issue. *Cf. C R Bard Inc. v. AngioDynamics Inc.*, 2018 WL 3468215, at *3 (D. Del. July 18, 2018). Rather, Olaplex is entitled to know the specific allegations against it to adequately prepare its defenses. As it stands, the decision not to bifurcate proceedings (to which Olaplex has objected, D.I. 655), prevented any fact discovery on this Counter-Claim. It follows that, at the least, the Counter-Claim should be limited to those alleged false advertisements that expressly were made known to Olaplex in the pleadings, expert discovery, and summary judgment filings. To do otherwise is to invite error at trial and to ensure unfair prejudice against Olaplex.

III. CONCLUSION

Olaplex respectfully requests that the Court issue an order *in limine* precluding L’Oreal from referencing or introducing evidence of or suggesting the existence of allegedly “fake” online posts or online accounts which were not specifically identified in the Expert Report of Peter Smith.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D,	)	FILED UNDER SEAL
INC. and REDKEN 5 TH AVENUE NYC,)	
LLC,)	
)	
Defendants.)	

**DEFENDANTS' OPPOSITION TO PLAINTIFFS' MOTION *IN LIMINE* NO. 4 TO
PRECLUDE USE OF ALLEGED "FALSE ADVERTISING" POSTS OR ACCOUNTS
BEYOND THOSE SPECIFICALLY IDENTIFIED IN DEFENDANTS' PLEADINGS
AND EXPERT REPORTS**

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I. SUMMARY OF ARGUMENT

Plaintiffs’ request that Defendants “be precluded from offering into evidence (or suggesting the existence of) any alleged instances of false advertising (*e.g.*, ‘fake posts,’ ‘fake accounts,’ or articles without attribution) beyond those specifically identified in [Defendants’ Counterclaims], expert discovery, and in briefing on Summary Judgment” should be denied.

As a preliminary matter, Plaintiffs do not identify *any* legal basis for the exclusion of such evidence. Plaintiffs’ sole argument—that any mention of additional burner accounts¹ or posts made therefrom would constitute “unfair surprise” at trial—carries no weight. (Mot. at 2-3.) First, any evidence that Defendants intend to introduce would be identified on their exhibit list. There is no “unfair surprise.” Second, as the Magistrate correctly noted long ago, Olaplex *already possesses* the information forming the bases of Defendants’ Lanham Act counterclaim, as the representations at issue came from Olaplex. (D.I. 633 ¶ 8.) Olaplex refused to produce all of this evidence to Defendants, forcing Defendants to move to compel. (D.I. 643 at 1-2.) In response to Defendants’ motion to compel, Plaintiffs took the position that producing additional evidence of their burner accounts would be “cumulative,” thus acknowledging the existence of these additional accounts. (D.I. 673, Ex. B at 26:11-13.) Plaintiffs also represented to the Magistrate that the information had already been identified by Plaintiffs’ own expert, Leigh Fatzinger, in his report, which was served on February 12, 2019, two weeks after Defendants’ expert report was served. (*See* D.I. 673, Ex. B at 26:11-22 (Olaplex acknowledging that Mr. Fatzinger identified the universe of potential posts infected by Olaplex’s alleged malfeasance and

¹ “Burner accounts” refer to social media accounts created by Olaplex that fail to disclose any affiliation with the company, through which Olaplex employees masquerade as objective third-parties commenting positively on the company’s own products, and negatively about competitors.

“provide[d] that analysis” to Defendants”).) (*See also* D.I. 673, Ex. A ¶¶ 18, 22). Having represented to the Magistrate that the requested information had already been provided, and having not been required to produce any more, Plaintiffs cannot now preclude Defendants from relying on the information they do have. Plaintiffs’ Motion should be denied.

II. PRECLUDING RELEVANT EVIDENCE WOULD BE UNDULY PREJUDICIAL TO DEFENDANTS.

Plaintiffs cannot shield evidence from the jury simply because it is unfavorable. Without any legal support for their request, Plaintiffs contend that any reference to burner accounts used by Plaintiffs and not disclosed in the Expert Report of Peter Smith would cause “unfair surprise.” This make no sense, as Plaintiffs clearly are aware of the burner accounts they created. To the extent Plaintiffs were unaware of the magnitude of their enterprise, they learned these facts no later than January 29, 2019, when their own expert, Leigh Fatzinger, submitted his report. Plaintiffs even relied on their expert’s report to block Defendants from obtaining further discovery. As Plaintiffs represented to the Magistrate:

And this I think is the key here why this truly is cumulative and they don’t need anything more. In response to Mr. Smith, we hired a gentleman by the name of Leigh Fatzinger who works for a company Turbine Labs. They’re one of the preeminent social media companies that analyzes these types of things, and they went out and they tried to scrape literally every post or publication that so much as mentioned Olaplex on Instagram, Twitter, Facebook, the Internet, and they did provide this analysis [to Defendants].

(D.I. 673, Ex. B at 26:11-22.) Plaintiffs won this argument. They cannot now block this evidence from the jury, simply because it is not favorable to them.²

² Plaintiffs’ Motion *in Limine* does not seek preclusion of any evidence showing that additional burner accounts exist, as identified by Defendants’ expert, Peter Smith, in his expert report dated January 29, 2019. To the extent Plaintiffs raise this argument for the first time in Reply, it should be denied. *U.S. v. Medeiros*, 710 F. Supp. 106, 110 (M.D. Pa. 1989), *aff’d* 884 F.2d 75 (3d Cir. 1989) (“[I]t is improper for a party to present a new argument in his or her reply brief.”). In any event, Plaintiffs cannot claim “unfair surprise” as to such evidence, since it was disclosed

Olaplex's cited authority is inapposite. The factors articulated in *Meyers v. Pennypack Woods HOA*, 559 F.2d 894 (3d Cir. 1977), do not apply, as this situation is not akin to a party's attempt to introduce a surprise witness. *Id.* at 904-05. The evidence at issue here has long-since been known to Plaintiffs. Indeed, unlike the plaintiff in *Meyers*, Defendants disclosed the expert reports of both Mr. Smith and Mr. Fatzinger in their initial trial exhibit list exchanged on May 1, 2019. *See id.* at 904 (overruling trial court's decision to exclude the testimony of witnesses whose names were not disclosed on the parties' pretrial memorandum).

Leonard v. Stemtech Health Scis., Inc., 981 F. Supp. 2d 273 (D. Del. 2013) is equally unhelpful, as it explains that "[e]vidence should not be excluded pursuant to a motion *in limine*, unless it is clearly inadmissible on *all potential grounds*." *Id.* at 276 (emphasis added).

Plaintiffs have not demonstrated as much, as evidence relating to additional burner accounts is relevant to issues beyond Defendants' Lanham Act counterclaim. (*See* D.I. 633 ¶ 7 ("L'Oréal has established that the facts underlying L'Oréal's first counterclaim under the Lanham Act are related to its unjust enrichment defense and Olaplex's claim for damages.")) At a minimum, as the Magistrate noted, this information is relevant to Defendants' unjust enrichment defense and Olaplex's claim for damages. (*See* D.I. 633 ¶ 7.) This information also rebuts Plaintiffs' two-party market theory, as it demonstrates that Plaintiffs artificially created this market through their own manipulative conduct, as well as Defendants' unclean hands defense, which is premised, in part, on Plaintiffs' market manipulation. (*See* D.I. 605; D.I. 650 at 31; Opp. to Plaintiffs' MIL No. 5, filed concurrently herewith, at 1-2.)

Plaintiffs' Motion *in Limine* to preclude references to burner accounts should be denied.

in opening expert reports. Tellingly, Olaplex has not asserted, in either its Motion *in Limine* or in its *Daubert* motion challenging Mr. Smith, that Mr. Smith's identification of additional burner accounts is wrong.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,

Plaintiffs,

V.

L'ORÉAL USA, INC., L'ORÉAL USA
PRODUCTS, INC., L'ORÉAL USA
S/D, INC., and REDKEN 5TH AVENUE
NYC, L.L.C.,

Defendants.

C. A. No. 1:17-cv-00014-JFB-SRF

**CONFIDENTIAL –
FILED UNDER SEAL**

PLAINTIFFS’ REPLY BRIEF IN FURTHER SUPPORT OF THEIR MOTION *IN LIMINE* NO. 4 TO PRECLUDE USE OF ALLEGED “FALSE ADVERTISING” POSTS OR ACCOUNTS BEYOND THOSE SPECIFICALLY IDENTIFIED IN L’ORÉAL’S PLEADINGS AND EXPERT REPORTS

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Defendants’ (“L’Oréal”) opposition to Plaintiffs’ (“Olaplex”) Motion *In Limine* No. 4 is an invitation to chaos and prejudice at trial. Despite filing its sprawling false advertising Lanham Act claim in January 2019, L’Oréal has never identified with **any** specificity the false advertisements that it claims are at issue in this case. The failure to do so renders it impossible for Olaplex to adequately prepare trial defenses and strategy under the governing law. *See Lexmark Int’l v. Static Control Components, Inc.*, 572 U.S. 118, 133 (2014); *Larry Pitt & Assocs. v. Lundy Law LLP*, 294 F. Supp. 3d 329, 341 (E.D. Pa. 2018) (“specific misrepresentations”). L’Oréal claims Olaplex did not identify any legal basis for this Motion. Opp. at 1. That is obstinate: the impropriety of “trial by ambush” is beyond citation. The **only** effort L’Oréal has made to specifically identify the false advertisements at issue is in exhibits to the Smith Report and summary judgment briefs. This Court appropriately should hold L’Oréal—the Counter-Plaintiff bearing the burden of proof on its claim—to those, and only those, contentions.

L’Oréal’s Opposition obfuscates by claiming that an Olaplex Expert Report (Fatzinger) identified advertisements that L’Oréal may attempt to use at trial. First, this continues L’Oréal’s flagrant mischaracterization of this Report, which only identifies generic content from the Internet hitting on “keyword searches” and makes no claim that any such content is a “false advertisement.” D.I. 765, at 6 n.7. Second, the Report’s exhibits are merely spreadsheets listing thousands of Internet hits for keywords like “Olaplex.” L’Oréal has never identified which spreadsheet entries it will attempt to offer as evidence of false advertising—citing the exhibits as “proof” that other false advertisements have been adequately “identified” is a fiction. Opp. at 2-3. L’Oréal’s accusation that Olaplex withheld discovery is wrong. That dispute was resolved and not at issue in this Motion. D.I. 681. In sum, the Court should not to allow L’Oréal to ambush Olaplex (or the Court) at trial by attempting to use or refer to alleged false advertisements it never identified.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
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v.)	C. A. No. 17-14 (JFB) (SRF)
)	
L'ORÉAL USA, INC., L'ORÉAL USA)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D,)	FILED UNDER SEAL
INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' MOTION IN LIMINE NO. 5 TO PRECLUDE DEFENDANTS FROM
REFERENCE TO OR RELIANCE ON MATTERS DISMISSED FROM THE AMENDED
COUNTER-COMPLAINT PURSUANT TO RULE 12(b)(6) OR FROM ASSERTING
CLAIM CONSTRUCTIONS OR CLAIM CONSTRUCTION ARGUMENTS REJECTED
IN THE CLAIM CONSTRUCTION ORDER**

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Defendants (“L’Oréal”) should be precluded from referring to or relying on matters stricken from the Amended Counter-Complaint (D.I. 650) pursuant to the Court’s Report and Recommendation granting in part Olaplex’s Rule 12(b)(6) Motion to Dismiss (D.I. 791), and from asserting claim constructions or construction arguments rejected in the governing claim construction order (D.I. 796, adopting D.I. 602).

I. BACKGROUND

L’Oréal filed its Amended Counter-Complaint after the close of fact discovery on February 8, 2019. D.I. 650. On February 22, 2019, Olaplex filed a Motion to Dismiss pursuant to Rule 12(b)(6). D.I. 665, 666. After full briefing (*see* D.I. 666, 679, 728), Judge Fallon issued a Report & Recommendation (D.I. 791) granting, in part, Olaplex’s Rule 12 Motion. Trial is slated to begin on July 29, 2019. The Report & Recommendation dismissed substantial parts of L’Oréal’s Counterclaim for false advertising under the Lanham Act (D.I. 791 at 9-24, 38), and L’Oréal’s full Counterclaims for inequitable conduct (*id.* at 35-39).¹ With respect to the Lanham Act claim, the Motion to Dismiss ruling substantially curtails L’Oréal’s cause of action and the theories of liability. As these matters have been removed from the case, and as discussing those matters at trial would yield substantial confusion of the issues that actually remain in the case, L’Oréal should be precluded from referring to, introducing alleged evidence of, or relying on the following:

- A. Any information regarding the dismissed alleged false advertisement claim that “Craig Hawker invented Olaplex in one night and handed it do Dean Christal after Chistal told him what he wanted[.]” D.I. 791 at 10 (point ii);
- B. Any information regarding the dismissed alleged false advertisement claim that Olaplex products will “never break a client’s hair again[.]” *Id.* (point iii);

¹ L’Oréal’s Counterclaims for inequitable conduct were previously bifurcated for separate trial to the bench. *See* D.I. 633 (Bifurcation Order).

- C. Any information regarding the dismissed alleged false advertisement claim that the “L’Oréal USA products do not perform as well as the Olaplex products, when in fact, the L’Oréal USA products perform superior to Olaplex[.]” *Id.* (point vii);
- D. Any information regarding the dismissed alleged false advertisement claim that “[s]tylists should be ‘careful’ using any products other than the ‘Olaplex technology’ because they may not protect the hair like Olaplex chemistry does[.]” *Id.* (point vii);
- E. Any information regarding the dismissed alleged false advertisement claim that “Olaplex links and multiplies the bonds of the hair” whereas other products are “a band aid at best[.]” *Id.* at 11 (point x);
- F. Any information regarding the dismissed alleged false advertisement claim that “Olaplex’s purposes is to serve [the public] with honesty and full transparency[.]” *Id.* (point xi);
- G. Any information regarding the FTC Act or the FTC Guidelines Concerning the Use of Endorsements and Testimonials in Advertising. *Id.* at 21-22;
- H. Any information regarding allegedly false advertisements by Olaplex occurring prior to July 2016. *Id.* at 24;
- I. Any information regarding Olaplex, or actors affiliated with Olaplex (including, but not limited to Dean Christal, Eric Pressly, and Rivka Monheit’s) representations to the USPTO related to L’Oréal’s dismissed inequitable conduct claims. *Id.* at 35-38.

II. PRECLUSION IS THE APPROPRIATE REMEDY

If L’Oréal’s Lanham Act claim reaches trial in any form (*but see* D.I. 683 (Olaplex’s Opening Brief in support of its Motion for Summary Judgment)), the jury will be tasked with ascertaining whether the alleged statements constitute false advertising, whether such advertisements created actual deception, and, if so, whether L’Oréal has demonstrated any harm “flowing directly” from such statements. *See Incarcerated Entm’t, LLC. v. CNBC LLC*, 331 F. Supp. 2d 352 (D. Del. 2018); *Lexmark Int’l, Inc. v. Static Ctrl Components, Inc.*, 572 U.S. 118 (2014). Allowing L’Oréal to offer evidence and discussion of alleged false advertisements that

have been eliminated from its Counterclaim (points A-F, H) is highly likely to yield substantial confusion of the issues and misleading the jury. Because these allegations are no longer at issue, evidence in support thereof has no probative value and the Rule 403 exclusion standard is easily satisfied. *See* Fed. R. Civ. P. 403 (exclusion permitted where “probative value is substantially outweighed by a danger of ... confusing the issues [or] misleading the jury”). Similarly, any reference to the irrelevant, legally inapposite FTC Act or the Guidelines thereunder (point G) is likely to generate significant juror confusion about the governing law and, as they suggest that the Federal Government has taken a controlling position about the alleged conduct (where it has not), would be unfairly prejudicial well in excess of any probative value (as there is none). Last, any reference to the dismissed inequitable conduct allegations (point I)—to the extent the bifurcation order does not already resolve this issue—should be barred because they would plainly mislead and confuse the jury about the live issue of the Asserted Patents’ validity.

Additionally, notwithstanding the claim construction Report and Recommendation (D.I. 602), adopted by this Court in full (D.I. 796), L’Oréal has indicated an intent to present at trial arguments that depend on rejected claim constructions and arguments. *E.g.*, D.I. 684-85 (Olaplex’s *Daubert* Motion and Brief as to Dr. Benny Freeman). Like expert testimony, fact testimony or attorney argument “based on an impermissible claim construction is properly excluded as irrelevant and on the basis that the evidence could confuse the jury.” *EMC Corp. v. Pure Storage, Inc.* 154 F. Supp. 3d 81, 109 (D. Del. 2016); *Fed R. Evid.* 403. As testimony and argument concerning claims in the Asserted Patents will permeate trial, *in limine* relief is proper.

III. CONCLUSION

Olaplex respectfully requests that the Court issue an order *in limine* precluding L’Oréal from referring to or relying on matters stricken from the Amended Counter-Complaint or rejected claim constructions and arguments as set forth above.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D,	)	FILED UNDER SEAL
INC. and REDKEN 5 TH AVENUE NYC,)	
LLC,)	
)	
Defendants.)	

**DEFENDANTS' OPPOSITION TO PLAINTIFFS' MOTION *IN LIMINE* NO. 5 TO
PRECLUDE DEFENDANTS FROM REFERENCE TO OR RELIANCE ON MATTERS
DISMISSED FROM THE AMENDED COUNTER-COMPLAINT PURSUANT TO RULE
12(b)(6)**

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Plaintiffs seek, through their Motion *in Limine* No. 5, to preclude Defendants from presenting to the jury evidence of their market manipulation and misconduct. This is overly broad, improper for various reasons, and would be prejudicial to Defendants.

Plaintiffs seek to preclude reference to any of the matters identified as (A) through (I) in their Motion on the grounds that Defendants cited this evidence as partial support for their Lanham Act claim, which the R&R partially dismissed, and for their inequitable conduct claims, which the R&R dismissed entirely. (D.I. 791.) First, the R&R is not final, as the parties' objections are due May 14, 2019. Second, even if the Court were to overrule all objections to the R&R, Plaintiffs' Motion still should be denied because evidence concerning the matters (A) through (I) are relevant to issues beyond false advertising and inequitable conduct. The law is clear that "evidence should not be excluded pursuant to a motion in limine, unless it is clearly inadmissible on **all potential grounds**." *Leonard v. Stemtech Health Scis., Inc.*, 981 F. Supp. 2d 273, 276 (D. Del. 2013) (emphasis added). Plaintiffs have not made this showing. Nor can they. The issues relating to Defendants' false advertising counterclaim overlap with Defendants' defenses and damages issues, as the Magistrate recognized in its ruling on Plaintiffs' Motion to Bifurcate. (*See* D.I. 633 ¶ 7 ("L'Oréal has established that the facts underlying L'Oréal's first counter claim under the Lanham Act are related to its unjust enrichment defense and Olaplex's claim for damages.").)

Further, Plaintiffs position that "[b]ecause these allegations are no longer at issue, evidence in support there of [sic] has no probative value and the Rule 403 exclusion standard is easily satisfied" is simply incorrect. (Mot. at 3.) Matters (A) through (F) relate to representations made by Plaintiffs in order to gain market share by touting their products and denouncing competitors. This conduct is directly relevant to Plaintiffs' two-party market theory,

which Plaintiffs continue to pursue in support of their request for injunctive relief. Defendants dispute Plaintiffs' two-party market theory, and this evidence shows that the market identified by Plaintiffs was artificially created through Plaintiffs' own manipulation. (*See, e.g.*, Mot. at I(B)-(E) (listing examples); D.I 605.) This evidence is also relevant to Defendants' unjust enrichment defense, and the issue of damages. Specifically, Defendants have a right to present evidence showing that Plaintiffs were unjustly enriched as a result of their misconduct, and thus, to the extent Plaintiffs are entitled to any damages, those damages should be offset by the amount of their unjust enrichment.¹ Plaintiffs' actions are also relevant to Defendants' defense of unclean hands, which is premised on Plaintiffs' manipulation of the market by lauding their own products and denouncing the Accused Products, often through undisclosed, paid endorsements and fake social media accounts. (*See* D.I. 650 at 31; *see also* Opp. to Plaintiffs' MIL No. 4 at 3.)

Moreover, Plaintiffs' request to preclude **any** information **related to** Defendants' inequitable conduct claims (matter (I)) is improperly vague.² For instance, the file histories of the asserted patents, including its record of communications with the USPTO are part of the intrinsic record. Thus, arguments and declarations, *inter alia*, submitted by Plaintiffs during prosecution of Plaintiffs' patent applications are highly relevant to issues well beyond inequitable conduct, including invalidity and noninfringement. Indeed, Plaintiffs have relied on materials identified in the inequitable conduct claims (*e.g.*, a declaration from co-inventor Dr.

¹ Though the Magistrate held that Defendants could not base a Lanham Act claim on matters (A) and (B) on statute of limitations grounds, this does not preclude Defendants from presenting this evidence as it relates to damages, including issues relating to Plaintiffs' inflated profits.

² Plaintiffs' broad, vague request to preclude "**any** information regarding" matters (A)-(I) is sufficient grounds to deny the Motion. *See Leonard*, 981 F. Supp. 2d at 276 ("[T]he court may deny a motion in limine when it lacks the necessary specificity with respect to the evidence to be excluded."); *id.* ("Evidentiary rulings, especially ones that encompass broad classes of evidence, should generally be deferred until trial to allow for the resolution of questions of foundation, relevancy, and potential prejudice in proper context.").

Eric Pressly submitted to the USPTO during prosecution), as evidence of nonobviousness. (*Compare* D.I. 626, Ex. H at 74-76 *with* D.I. 608 ¶¶ 229-35, 249-50.) Allowing Plaintiffs to rely on evidence from the file histories while precluding Defendants from doing the same for purposes other than assertions of inequitable conduct would be highly prejudicial. Similarly, as another example, an article authored by co-inventor Craig Hawker that is identified in Defendants' inequitable conduct claims is a prior art reference identified and relied upon by Defendants' expert for obviousness. (D.I. 716, Ex. A ¶¶ 400-419.) As this article is relevant to invalidity and the state of the art, its use during trial should not be precluded.

Furthermore, the matters identified by Plaintiffs are also relevant to rebut theories that Plaintiffs may present at trial and to test the credibility of its witnesses. Defendants have a right to introduce and use evidence that is relevant to their defenses and to damages issues in this case, even if that evidence may also be relevant to other claims. Plaintiffs' motion for a blanket prohibition of relevant evidence should be denied.

Last, Plaintiffs' belated attempt to add another (sixth) motion *in limine* concerning this Court's ruling on claim construction by way of its fifth Motion is improper. (Ex. A.) While Defendants agree that the parties should not raise different claim constructions for the fifteen terms/phrases specifically identified in the Court's Order (D.I. 796 at 11-12), Plaintiffs' Motion appears to seek a broader *Daubert* preclusion. As explained by Defendants in response to Plaintiffs' *Daubert* Motion, Defendants' expert has presented opinions on invalidity and noninfringement that apply the same constructions now adopted by this Court in the context of the asserted claims. (D.I. 738.) Plaintiffs' disagreement with Defendants' expert as to how the Court's now adopted constructions are applied is no basis for precluding those arguments during trial. Plaintiffs' Motion should be denied.

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IN THE UNITED STATES DISTRICT COURT		
FOR THE DISTRICT OF DELAWARE		
LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.)	C. A. No. 17-14 (JFB) (SRF)
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L'ORÉAL USA, INC., L'ORÉAL USA)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D,)	FILED UNDER SEAL
INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' REPLY BRIEF IN FURTHER SUPPORT OF THEIR MOTION IN
LIMINE NO. 5 TO PRECLUDE DEFENDANTS FROM REFERENCE TO OR
RELIANCE ON MATTERS DISMISSED FROM THE AMENDED COUNTER
COMPLAINT PURSUANT TO RULE 12(b)(6) OR FROM ASSERTING CLAIM
CONSTRUCTIONS OR CLAIM CONSTRUCTION ARGUMENTS REJECTED IN THE
CLAIM CONSTRUCTION ORDER**

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Defendants (“L’Oréal”) opposition to Plaintiffs’ (“Olaplex”) Motion *In Limine* No. 5 proves that its Counterclaims are designed to sow trial confusion by generically alleging that Olaplex engaged in unspecified “market manipulation and misconduct.” Opp. at 1. Olaplex’s Motion would merely limit evidence to **only** those claims remaining in issue. Because L’Oréal’s Counter-Complaint is significantly reduced by the recent Order (D.I. 791), and because claim construction disputes are now fully resolved (D.I. 796), it is appropriate to exclude related evidence and argument. L’Oréal’s Opposition asks the Court to deny the Motion for each category (*see* Mot. at A-I) because, now somehow, these points are “relevant to issues beyond false advertising and inequitable conduct.” Opp. at 1. L’Oréal requests free rein to discuss the dismissed issues based on a showing of feigned relevance to other claims and defenses. Mot. at 2-3. Even if Points A-I had relevance to issues other than the now dismissed claims (they do not), that is insufficient to allow their use under Rule 403. Indeed, its Opposition proves that L’Oreal intends to generically argue at trial that Olaplex conducted an undefined campaign of “market manipulation and misconduct” by pointing to anything and everything ***even if not actionable***. Mot. at 1. Thus, there is a substantial risk of juror confusion and prejudice to Olaplex outweighing any probative value, inviting jury misuse to inform decisions on the remainder of the Lanham Act claim and in assessing remedies. Points A-F go to specific alleged false advertisements that L’Oréal can no longer assert at trial. The claim that these are now relevant to “gaining market share” is an obvious backdoor effort to reanimate the dismissed claims. Mot. at 1-2. Point I only prevents argument that Olaplex engaged misconduct at the USPTO, and would not prevent use of intrinsic evidence for the patent claims. L’Oréal’s unwillingness to concede that the Rule 12 and claim construction orders altered the scope of the case is, itself, strong proof that restricting this evidence *in limine* is necessary and appropriate.

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EXHIBIT 13

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D, INC.)	FILED UNDER SEAL
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DEFENDANTS' MOTION IN LIMINE NO. 1 TO EXCLUDE
EVIDENCE OF NET WORTH

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I. SUMMARY OF ARGUMENT

Defendants L'Oréal USA, Inc., L'Oréal USA Products, Inc., L'Oréal USA S/D, Inc., and Redken 5th Avenue NYC, L.L.C. (together, "Defendants") respectfully request an Order *in limine* precluding Plaintiffs Liqwd, Inc. and Olaplex LLC (together, "Plaintiffs") from referencing at trial the financial condition, profitability, and/or net worth of any Defendant or their parent entity. While the profitability of the Accused Products may be relevant to Plaintiffs' patent infringement claims, Defendants' overall finances are not, and should not be disclosed to the jury. Fed. R. Evid. 402. Courts routinely hold that such information is inadmissible unless and until a jury concludes that "the defendant's [] conduct warrants an award of punitive damages." *Johnson v. Fed. Express Corp.*, 2014 WL 805995, at *12 (M.D. Pa. Feb. 28, 2014). *See also Waters v. Genesis Health Ventures, Inc.*, 400 F. Supp. 2d 808, 813 (E.D. Pa. 2005) (barring reference to plaintiff from referencing defendant's net worth in the presence of the jury "until the Court determines that Plaintiff has demonstrated that punitive damages are appropriate"). Furthermore, even if Plaintiffs were to demonstrate that they are entitled to punitive damages, evidence pertaining to Defendants' overall financial condition should still be excluded as substantially more prejudicial than probative. Fed. R. Evid. 403; *Mango v. BuzzFeed, Inc.*, 316 F. Supp. 3d 811, 813 (S.D.N.Y. 2018) (precluding evidence of defendant's net worth and financial condition, despite this information's limited relevance to plaintiff's punitive damages claim, reasoning it was substantially more prejudicial than probative, especially where defendant agreed to stipulate to its size and international presence).

II. DEFENDANTS' OVERALL FINANCIAL STATUS IS IRRELEVANT AND SUBSTANTIALLY MORE PREJUDICIAL THAN PROBATIVE.

Plaintiffs should be precluded from referencing the financial status or net worth of any Defendant or the corporate parent of any Defendant unless and until they can show they are

entitled to punitive damages on their tort claims.¹ *Parkins v. Brown*, 241 F.2d 367, 368 n.2 (5th Cir. 1957) (“The proffered evidence as to the financial condition of defendant will be competent only if the evidence develops a case warranting the jury in awarding punitive or exemplary damages.”). “[E]vidence of [a] defendant’s financial condition is not relevant until the factfinder concludes that the defendant’s intentional conduct warrants an award of punitive damages.” *Johnson*, 2014 WL 805995, at *12 (granting motion *in limine* to “preclude [plaintiff] from offering evidence or testimony of [defendant]’s net worth or revenue in her opening statement or at any other time in the presence of the jury until the jury reaches a verdict awarding punitive damages”); *McGrane v. Shred-It USA, Inc.*, 2011 WL 1706777, at *2 (W.D. Pa. May 4, 2011) (“[U]ntil the Court determines that the evidence of record is sufficient to prove outrageous conduct, evidence of Defendant’s financial condition or net worth is irrelevant.”).

Admitting evidence of Defendants’ net worth absent a showing that enhanced damages are recoverable would substantially and unduly prejudice Defendants. *See Ridolfi v. State Farm Mut. Auto. Ins. Co.*, 2017 WL 3142372, at *2 (M.D. Pa. July 25, 2017) (holding that, where punitive damages were not recoverable, evidence of defendant’s net worth should be excluded as “irrelevant” and “highly prejudicial,” as it “could lead to juror confusion”); *Smith v. Allstate Ins. Co.*, 912 F. Supp. 2d 242, 255 (W.D. Pa. 2012) (“Nonetheless, the Court agrees with [defendant] that, should Plaintiff present evidence regarding [defendant]’s net worth and punitive damages before Plaintiff presents legally sufficient evidence to sustain her claim for punitive damages, the

¹ Under no circumstances can Plaintiffs reference such information in connection with their patent infringement claim, as the issue of enhanced damages is not a matter for the jury. *See, e.g., Saint-Gobain Autover USA, Inc. v. Xinyi Glass N. Am., Inc.*, 707 F. Supp. 2d 737, 745 (N.D. Ohio 2010) (“Assessing enhanced damages is a two-step process: first, the *fact finder* must determine if an accused infringer is guilty of conduct, such as willfulness, upon which enhanced damages may be based, and, if so, *the court* must then exercise its discretion to determine if damages should be enhanced given the totality of the circumstances.”) (emphasis added).

probative value of this evidence would be substantially outweighed by a danger of unfair prejudice to [defendant], confusing the issues, misleading the jury, undue delay, and wasting time.”); *Williams v. Betz Labs., Inc.*, 1996 WL 114815, at *3 (E.D. Pa. Mar. 14, 1996) (holding that “[b]efore evidence of the financial condition or net worth of defendant Betz is admissible, this Court must determine the legal sufficiency of plaintiff’s claim for punitive damages, which must await trial,” as a contrary decision would lead to the jury hearing “irrelevant confusing matters” proscribed by Federal Rule of Evidence 403). “The only purpose of presenting such evidence to the jury [at this stage] would be to represent that [Defendant] could afford to pay an award to Plaintiffs,” which is improper. *Karlo v. Pittsburgh Glass Works, LLC*, 2016 WL 69651, at *3 (W.D. Pa. Jan. 6, 2016) (granting motion *in limine* to exclude evidence of defendant’s financial status). *See also Hunt v. Cty. of Orange*, 2009 WL 10702539, at *3 (C.D. Cal. Oct. 7, 2009) (granting motion *in limine* to exclude evidence of defendant’s financial condition because it would compromise factfinder’s ability to award damages by “injecting the ‘foreign, diverting, and distracting’ question of the defendants’ ‘ability . . . to pay the . . . damages’”). The danger of jury confusion is high here, where Plaintiffs have already attempted to rely on finances relating to Defendants’ corporate parent, L’Oréal S.A., who is not a party to this action, to increase their damages demand. (*See* D.I. 705, Ex. A; D.I. 702 at 15-16, D.I. 779 at 9-10.) Moreover, even if Plaintiffs did demonstrate their entitlement to punitive damages, evidence of Defendants’ financial condition should still be excluded as more prejudicial than probative. *Mango*, 316 F. Supp. 3d at 813 (precluding evidence of financial condition and noting that defendant’s size and international presence sufficed to calculate punitive damages).

Plaintiffs should be precluded from offering evidence of the net worth of any Defendant or their corporate parent.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 1:17-cv-00014-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA	)	FILED UNDER SEAL
S/D, INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' OPPOSITION TO DEFENDANTS' MOTION IN LIMINE NO. 1 TO
EXCLUDE EVIDENCE OF NET WORTH**

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May 8, 2018

Plaintiffs (“Olaplex”) oppose Defendants’ (“L’Oréal”) Motion *in Limine* No. 1 (“Mot.”).

I. PUNITIVE DAMAGES CLAIMS SUPPORT EVIDENCE OF NET WORTH

In a single sentence, L’Oréal urges this Court to exclude all evidence touching on its net worth, despite acknowledging the clear relevance of such information as to damages (among other issues in this case). Mot. at 3. However, both the Delaware Uniform Trade Secrets Act and the federal Defend Trade Secrets Act authorize recovery of punitive damages, 6 Del. C. § 2003(b); 18 U.S.C. § 1836(b)(3)(C), and L’Oréal acknowledges that “[e]vidence concerning a defendant’s net worth is relevant to punitive damages.” *Bassi v. Patten*, 592 F. Supp. 2d 77, 85 (D.D.C. 2009). This admission alone is sufficient to deny L’Oréal’s Motion.

Rather than address this head-on, L’Oréal urges error by asking the Court to exclude relevant evidence based on distinguishable cases and Rule 403. Both arguments fail. First, L’Oréal’s cases generally concern claims where punitive damages were not available *as a matter of law* or where the defendant had stipulated to facts concerning statutory damages enhancement. *E.g.*, *Ridolfi v. State Farm Mut. Auto. Ins. Co.*, 2017 WL 3142372, at *2 (M.D. Pa. July 25, 2017) (breach of contract); *Karlo v. Pittsburgh Glass Works, LLC*, 2016 WL 69651, at *2-3 (W.D. Pa. Jan. 6, 2016) (age discrimination); *Mango v. BuzzFeed, Inc.*, 316 F. Supp. 3d 811, 814 (S.D.N.Y. 2018) (copyright infringement). None of these circumstances is present here. In L’Oreal’s remaining cases, evidence of net worth was excluded only for the liability stage of trials in which damages was bifurcated. *E.g.*, *Johnson v. Federal Exp. Corp.*, 2014 WL 805995, at *12 (M.D. Pa. Feb. 28, 2014); *Hunt v. Cnty. of Orange*, 2009 WL 10702539, at *10 (C.D. Cal. Oct. 7, 2009). This circumstance, too, is not present here.

Second, Rule 403 exclusion is not proper because, as detailed in Part II, evidence addressing L’Oréal’s net worth has significant, independent probative value for multiple claims and defenses at issue in this case. Any abstract danger articulated by L’Oréal is insufficient to

“substantially outweigh” the value of presenting this relevant evidence to the jury; especially in an *in limine* order rendered before the Court is given a full record to understand the context and scope for presentation of this evidence. Ignoring this reality, L’Oreal argues under Rule 403 that Olaplex may address L’Oréal’s net worth only after the Court has found sufficient evidence to support exemplary damages. Mot. at 1-2. This trial within the trial demand makes no sense. Moreover, there is no “danger of unfair prejudice” if this evidence were presented without evidence of willful and malicious conduct because L’Oréal’s culpability is clear in the record at the outset. *See, e.g.*, D.I. 732, at 2-7, 18-19. Notably, none of L’Oréal’s *four* separate motions for summary judgment (D.I. 694, 703, 710, 712), including one targeting Olaplex’s damages case (D.I. 694), assert that willfulness cannot be proven. The Rule 403 inquiry is highly fact- and context-sensitive, *Sprint/United Management Co. v. Mendelsohn*, 552 U.S. 379, 388 (2008), so L’Oréal’s reliance on employment-discrimination cases is unavailing. Mot. at 1-2. To the extent L’Oréal fears juror misuse of this otherwise proper information, it should propose a jury instruction at the appropriate time—a generic order *in limine* is not called for on these facts.

II. EVIDENCE OF NET WORTH IS RELEVANT AND HIGHLY PROBATIVE

Beyond relevance to Olaplex’s punitive damages case (which L’Oréal concedes), evidence relating to Defendant’s financial capacities (*e.g.*, net worth) is probative of key claims and defenses in this lawsuit. The case law is clear that evidence of financial capability “may be admitted where it relates to a substantive issue at trial.” *Marvin Johnson, P.C. v. Shoen*, 888 F. Supp. 1009, 1013-14 (D. Ariz. 1995) (admitting evidence of defendant’s financial capacity because it was relevant to the parties’ asserted interpretations of contract); *see also Bower v. Weisman*, 674 F. Supp. 113, 117-18 (S.D.N.Y. 1987) (admitting evidence of defendant’s financial capacity because it was “relevant for reasons other than the determination of damages”). Here, one of L’Oréal’s defenses concerning Olaplex’s claims is that it did or could have independently ascertained (not

misappropriated) Olaplex's technology using its knowhow and resources and/or designed around it to avoid paying Olaplex's lost profits. D.I. 650, at 29; D.I. 695 at 10-14, 17-20. Thus, L'Oréal has squarely put at issue its financial ability and resources to develop the Accused Products independently from the information it stole from Olaplex and/or that L'Oréal had the financial wherewithal and resources to design around Olaplex's technology. These capabilities are materially a function of financial resources—the ability to pay top chemists and to fund R&D, for example, goes directly to L'Oréal's defenses. *Id.* Further, L'Oréal's fraud Counterclaim is premised on its claim that Olaplex allegedly “demand[ed] an **unreasonable** \$1 billion” from L'Oréal during talks. D.I. 650, at 69-70 (emphasis added). That L'Oréal could more than afford this acquisition request—a fact publicly known—is probative of the demand's reasonability and provides context that tends to disprove L'Oréal's argument. Further still, L'Oréal has placed its own net worth in issue because, in attempting to defeat Olaplex's lost profits claims for alleged lack of demand for the patented invention, its witnesses (including an expert) have asserted that the Accused Products are not profitable by comparing their sales with L'Oréal's **overall** sales. *See, e.g.,* D.I. 720, Ex. 7, at ¶ 95 (arguing that sales of the Accused Products “represent just a tiny fraction of the **L'Oréal Group's overall sales**”). L'Oréal cannot rely on this point and simultaneously seek an order that would preclude Olaplex from rebutting it. Evidence of financial capacity would not be offered to show ability to pay. Mot. at 3. However, for the reasons above, this evidence is highly probative of claims and defenses. The balance of Rule 403 factors counsels denying L'Oréal's broad request for *in limine* relief.

III. CONCLUSION

Olaplex respectfully requests that the Court deny L'Oréal's Motion *in Limine* No. 1 to Exclude Evidence of Net Worth.

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v.)	C.A. No. 17-14-JFB-SRF
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**DEFENDANTS' REPLY IN SUPPORT OF THEIR MOTION *IN LIMINE* NO. 1 TO
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Olaplex fails to grasp the import of L'Oréal USA's Motion in Limine No. 1, which does not seek to preclude reference to L'Oréal USA's resources or Accused Products sales, but to its net worth and the net worth of its parent company, L'Oréal S.A.. Courts routinely exclude such information prior to a finding of liability on grounds that this information is substantially more prejudicial than probative. *See, e.g., Waters v. Genesis Health Ventures, Inc.*, 400 F. Supp. 2d 808, 813 (E.D. Pa. 2005); *Parkins v. Brown*, 241 F.2d 367, 368 n.2 (5th Cir. 1957); *Smith v. Allstate Ins. Co.*, 912 F. Supp. 2d 242, 255 (W.D. Pa. 2012); *McGrane v. Shred-It USA, Inc.*, 2011 WL 1706777, at *2 (W.D. Pa. May 4, 2011); *Williams v. Betz Labs., Inc.*, 1996 WL 114815, at *3 (E.D. Pa. Mar. 14, 1996).¹ Olaplex also attempts to distinguish certain cases by noting that they involved employment discrimination claims, but this superficial distinction is irrelevant. Reference to a defendant's net worth in any case seeking punitive damages would be substantially more prejudicial than probative for the same reason—it would “confus[e] the issues, mislead[] the jury, undu[ly] delay, and wast[e] time.” *Smith*, 912 F. Supp. 2d at 255.

Olaplex's argument that Defendants' net worth is relevant to issues beyond punitive damages is misplaced. While the parties may discuss the resources available to Defendants, and Defendants' ability to manufacture products without the assistance of Olaplex, this has nothing to do with the net worth of the company. Defendants' net worth is also irrelevant to whether Olaplex's (not Defendants') \$1 billion acquisition demand was made in good faith. Whether Defendants may have had the means to pay this amount has no bearing on the reasonableness of Olaplex's demand. Likewise, the profitability of the Accused Products can be shown through evidence of the sales of those products. Olaplex's introduction of net worth evidence at trial would be prejudicial and invite error. Defendants' Motion should be granted.

¹ Contrary to Olaplex's assertion, these cases did not involve situations where punitive damages were unavailable as a matter of law, or where the issue of punitive damages was bifurcated.

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**IN THE UNITED STATES DISTRICT COURT
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Plaintiffs,)	
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v.)	C.A. No. 17-14-JFB-SRF
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and REDKEN 5 TH AVENUE NYC, LLC,)	
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Defendants.)	

**DEFENDANTS' MOTION *IN LIMINE* NO. 2 TO PRECLUDE REFERENCE TO ANY
FINDINGS AND CONCLUSIONS MADE IN CONNECTION WITH PLAINTIFFS'
MOTIONS FOR PRELIMINARY INJUNCTION**

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I. SUMMARY OF ARGUMENT

Plaintiffs should be precluded from making reference at trial to any finding or ruling made by the Magistrate, this Court, or the Federal Circuit in connection with Plaintiffs' motions for preliminary injunction (D.I. 14, 239). Plaintiffs have used these rulings as a crutch throughout this litigation, relying on preliminary findings based on an incomplete record to avoid making fulsome, affirmative arguments. They should not be permitted to utilize this strategy at trial. As a threshold matter, any findings or conclusions made in connection with Plaintiffs' motions for preliminary injunctive relief are irrelevant to any issue being decided by the jury. Fed. R. Evid. 402. But even if that were not the case, such references should be excluded as substantially more prejudicial than probative. Fed. R. Evid. 403. Courts routinely preclude references to preliminary injunctions on these grounds. *See Judkins v. HT Window Fashions Corp.*, 2009 WL 3400989, at *1 (W.D. Pa. Oct. 20, 2009); *Altana Pharma AG v. Teva Pharm. USA Inc.*, 2010 WL 11470982, at *1 (D.N.J. Apr. 5, 2010); *King Pharm., Inc. v. Sandoz, Inc.*, 2010 WL 4789950, at *1 (D.N.J. Sept. 8, 2010).¹

II. THE FINDINGS AND CONCLUSIONS ON PLAINTIFFS' MOTIONS FOR PRELIMINARY INJUNCTION ARE NOT RELEVANT.

The findings and conclusions relating to Plaintiffs' requests for preliminary injunctive relief are irrelevant at trial. Fed. R. Evid. 402. "[T]he purpose of a preliminary injunction is merely to preserve the relative positions of the parties until a trial on the merits can be held. Given this limited purpose, and given the haste that is often necessary if those positions are to be preserved, a preliminary injunction is customarily granted on the basis of procedures that are less formal and evidence that is less complete than in a trial on the merits." *Univ. of Tex. v.*

¹ To be clear, Defendants are not seeking to preclude evidence adduced or presented by any party in connection with the preliminary injunction motions. This motion *in limine* is limited only to the findings and conclusions reached by the courts in connection with those motions.

Camenisch, 451 U.S. 390, 395 (1981). As such, “all findings of fact and conclusions of law at the preliminary injunction stage are subject to change upon the ultimate trial on the merits,” and are “not binding” on the trial court. *Purdue Pharma L.P. v. Boehringer Ingelheim GmbH*, 237 F.3d 1359, 1363 (Fed. Cir. 2001); *Univ. of Tex.*, 451 U.S. at 395. This point is punctuated in the instant case, as this Court declined to review Defendants’ motions to reopen the preliminary injunction record to include evidence that Plaintiffs withheld during discovery (and which was not available to Defendants during the preliminary injunction briefing), on grounds that the preliminary injunction was “preliminary.” (See D.I. 785 at 12 (emphasis in original).)

Defendants intend to appeal this Court’s order granting Plaintiffs’ Renewed Motion for Preliminary Injunction. (D.I. 785.) In short, the preliminary nature of both the requested relief and the findings associated therewith are precisely what make them irrelevant to a full trial on the merits. See *Judkins*, 2009 WL 3400989, at *1 (granting motion *in limine* to preclude reference to preliminary injunction decision because “findings and conclusions at the preliminary injunction stage are tentative, subject to change, and are not binding at a trial on the merits”); *Sanofi-Aventis Deutschland GmbH v. Glenmark Pharm. Inc., USA*, 2011 WL 383861, at *3 (D.N.J. Feb. 3, 2011) (excluding as irrelevant references concerning the court’s preliminary injunction opinion); *Howmedica Osteonics Corp. v. Zimmer, Inc.*, 2013 WL 5286189, at *2 (D.N.J. Sept. 16, 2013) (same); *Novartis Pharm. Corp. v. Teva Pharm. USA, Inc.*, 2009 WL 3754170, at *5 (D.N.J. Nov. 5, 2009) (“A judicial ruling or court conclusion of law is not a matter for the jury which operates as the factfinder.”).

III. REFERENCE TO THE COURTS’ PRELIMINARY FINDINGS AND CONCLUSIONS IS SUBSTANTIALLY MORE PREJUDICIAL THAN PROBATIVE.

Even if the findings and conclusions were relevant, such references should be excluded as more prejudicial than probative. Fed. R. Evid. 403. Courts routinely exclude such evidence on

the grounds that it is “likely to unduly influence the jury.” *Park W. Radiology v. CareCore Nat’l LLC*, 675 F. Supp. 2d 314, 324 (S.D.N.Y. 2009) (granting motion *in limine* to preclude references to the court’s preliminary injunction ruling pursuant to Rule 403); *Sanofi-Aventis*, 2011 WL 383861, at *3 (excluding as prejudicial evidence and references relating to the court’s preliminary injunction opinion); *Novartis*, 2009 WL 3754170, at *5 (“Given the leniency afforded by courts at the preliminary injunction stage, the introduction of the denial of the preliminary injunction and the Federal Circuit’s affirmance of that disposition creates an unduly prejudicial effect outweighing any potential probative value alleged for purposes of introduction.”); *Howmedica*, 2013 WL 5286189, at *2 (excluding evidence of and reference to preliminary injunction order on the grounds that it “would be unfairly prejudicial, confuse the issues, and mislead the jury”); *King Lombardi Acquisitions, Inc. v. Troop Real Estate, Inc.*, 2011 WL 13213918, at *1 (C.D. Cal. Jan. 10, 2011) (granting motion *in limine* to “preclude plaintiff from offering evidence or argument related to the parties’ stipulated preliminary injunction,” reasoning that “whatever probative value evidence of the stipulated preliminary injunction may have, it is far outweighed by the potential for unfair prejudice and confusion”).

Plaintiffs should be precluded from referencing any findings or conclusions reached by any court relating to their motions for preliminary injunction.

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May 8, 2018

Plaintiffs (“Olaplex”) oppose Defendants’ (“L’Oréal”) Motion *in Limine* No. 2 to Prelude Reference to Any Findings and Conclusions Made in Connection with Plaintiffs’ Motions for Preliminary Injunction (“Motion” or “Mot.”).

I. CERTAIN PRELIMINARY INJUNCTION FINDINGS ARE PROBATIVE AND ADMISSIBLE FOR PROPER PURPOSES

L’Oréal’s Motion seeks to preclude “*any* findings and conclusions” related to Olaplex’s Preliminary Injunction Motions. Mot. at 1 (emphasis added). This is an overbroad request and improper. *Leonard v. Stemtech Health Scis., Inc.*, 981 F. Supp. 2d 273, 276 (D. Del. 2013) (“Evidentiary rulings ... should generally be deferred until trial to allow for the resolution of questions of foundation, relevancy, and potential prejudice in proper context.”). At the outset, Olaplex will certainly not suggest that the jury should find the ’419 Patent valid and infringed at trial on the basis that its motion for a preliminary injunction was granted.¹ However, there are several proper uses of findings made in connection with the preliminary injunction motions and it should not be excluded wholesale. For example, Olaplex contends that L’Oréal actively induces infringement by instructing its customers to use the Accused Products in an infringing manner. *Liqwd, Inc. v. L’Oréal USA, Inc.*, 720 F. App’x 623, 628-29 (Fed. Cir. 2018). As the Federal Circuit recognized, “active inducement of infringement[] is often ‘an ongoing offense that can continue after litigation has commenced.’” *Id.* at 628 (quoting *In re Seagate Technology, LLC*, 497 F.3d 1360, 1374 (Fed. Cir. 2007)). Olaplex should be permitted to inform the jury of the Federal Circuit’s decision on appeal from the first Order concerning the preliminary injunction motion (D.I. 135), as well as the date thereof (D.I. 217-1), because that decision establishes that

¹ L’Oréal charges, without citation or explanation, that “Plaintiffs have used these [preliminary injunction] rulings as a crutch throughout this litigation, relying on preliminary findings based on an incomplete record to avoid making fulsome, affirmative argument.” Mot. at 1. L’Oréal declined to direct the Court to even a single example to back up this claim.

L'Oréal actively induced infringement with the requisite knowledge at least as early as the date the decision issued (but likely much earlier in light of other evidence). *See id.* at 629 (“Our claim construction today ***makes it likely that the knowledge element for inducement of infringement may be satisfied***[.]” (emphasis added)). Relatedly, one of L'Oréal's defenses to Olaplex's infringement claims is that, to the extent it has infringed Olaplex's patents, it did not do so willfully. D.I. 650, at 27. The Federal Circuit has held that the fact an infringer is enjoined from infringing is relevant to the infringer's ***notice*** of infringement, supporting a finding of willfulness. *Paper Converting Mach. Co. v. Magna-Graphics Corp.*, 785 F.2d 1013, 1015 (Fed. Cir. 1986) (“We agree . . . that the injunction, against a party who had already infringed, provided an added reason for caution.”). In support of Olaplex's demand for enhanced patent damages, Olaplex should be permitted to inform the jury of the timeframe when L'Oréal was found likely to be infringing the '419 Patent, helping to establish the date by which L'Oréal knew (or should have known) that its conduct was infringing. L'Oréal did not stop its infringement (or do anything different) following either the Federal Circuit's decision (D.I. 217-1), or this Court's decisions on remand (D.I. 430; D.I. 785). L'Oréal's request to entirely bar information from the first two years of this litigation (indeed two additional years of infringing conduct) is overbroad and unsupported at law. To the extent L'Oréal believes that any specific reference to an order, conclusion, or decision respecting the preliminary injunction phase of this case is improper, the appropriate action is a contemporaneous trial objection. *Cf. C.R. Bard Inc. v. AngioDynamics Inc.*, 2018 WL 3468215, at *3 (D. Del. July 18, 2018); *see infra* Part II. Further still, evidence of preliminary injunction decisions may be relevant for impeachment purposes at trial. One of the cases L'Oréal cites expressly recognizes that an order *in limine* otherwise excluding reference to a preliminary injunction order should leave open its use for impeachment. *See Altana Pharma AG v. Teva*

Pharms. USA Inc., 2010 WL 11470982, at *1 (D.N.J. April 5, 2010) (“However, the Defendants are not precluded from the use of injunction materials if relevant and appropriate for impeachment purposes.”). Moreover, several of L’Oréal’s experts relied on preliminary injunction materials and decisions to form their opinions. *See, e.g.*, D.I. 719, Ex. 1, at ¶¶ 25, 29 (Dr. Benny Freeman’s Opening Report); D.I. 720, Ex. 4, at ¶ 14 & n.2 (Rhonda Harper’s Report); D.I. 720, Ex. 6, at Ex. B, Items 7, 12 (James Pooley’s Report); D.I. 720, Ex. 8, at Ex. B, Items 6, 10 (Thomas Schultz’s Report); D.I. 719, Ex. 3, at ¶ 23, 27, 77 n.44 (Dr. Freeman’s Rebuttal Report). Assuming that these experts are permitted to testify at trial,² Olaplex should be allowed to cross-examine them about and impeach them with the materials they relied on, *see* Fed. R. Evid. 705, which includes the evidence that L’Oréal would exclude hereby.³

II. ANY PREJUDICE CAN BE EASILY CURED

To the extent there is any prejudice in informing the jury about certain findings related to the preliminary injunction proceedings, it is easily cured. Given the probative value that Olaplex has described above, to the extent any prejudice would result, the remedy should not be to exclude the evidence but to issue a cautionary instruction to the jury. *See, e.g., WWP, Inc. v. Wounded Warriors Family Support, Inc.*, 628 F.3d 1032, 1040-41 (8th Cir. 2011) (affirming district court’s admission of reference to grant of preliminary injunction because it was relevant to plaintiff’s damages theory and because the district court “issued a cautionary instruction”); *Citizens Fin. Group, Inc. v. Citizens Nat’l Bank*, 383 F.3d 110, 133 (3d Cir. 2004).

III. CONCLUSION

Olaplex respectfully requests that the Court deny L’Oréal’s Motion.

² *But see* D.I. 684, 686, 690, 697 (Olaplex’s *Daubert* motions).

³ Additionally, Olaplex experts rely on the existence of judicial findings made in the Preliminary Injunction proceedings that are probative of issues and defenses in the case. *See, e.g.*, D.I. 747-1, Ex. 1 at ¶¶ 29, 48, 63, 68, 74, 83 & accompanying footnotes.

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**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D, INC.	)	FILED UNDER SEAL
and REDKEN 5 TH AVENUE NYC, LLC,)	
)	
Defendants.)	

**DEFENDANTS' REPLY IN SUPPORT OF MOTION *IN LIMINE* NO. 2 TO PRECLUDE
REFERENCE TO ANY FINDINGS AND CONCLUSIONS MADE IN CONNECTION
WITH PLAINTIFFS' MOTIONS FOR PRELIMINARY INJUNCTION**

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Olaplex concedes that it would be improper to “suggest that the jury should find the ’419 Patent valid and infringed at trial on the basis that its motion for preliminary injunction was granted.” (Opp. at 1.) Nonetheless, Olaplex still seeks to reference the trial and appellate courts’ findings relating to its motions for preliminary injunction (“PI”). This is improper, as these preliminary findings are based on an incomplete record and would “unduly influence the jury.” *Park W. Radiology v. CareCore Nat’l LLC*, 675 F. Supp. 2d 314, 324 (S.D.N.Y. 2009).

While Olaplex argues that the PI findings may be relevant for other purposes, it focuses primarily on the evidence presented in connection with the PI motions, not with the courts’ findings.¹ Defendants do not seek to preclude the underlying evidence, to which they may have separate objections at trial. Their motion focuses only on the rulings and findings within them.

Olaplex also contends that the PI ruling somehow establishes Defendants’ knowledge for induced infringement or willfulness. (Opp. at 2.) Not only is this argument incorrect (and Defendants reject such a premise), it underscores the prejudice such rulings would introduce to Defendants, as Defendants were forced to present initial non-infringement and invalidity positions during the time constrained PI phases of this case, which do not represent all of Defendants’ non-infringement and invalidity positions against the asserted patents. The jury should not be tainted by findings and conclusions that were not based on a full record and evidence that will be presented at trial. Moreover, Defendants are appealing the PI ruling and maintain that the asserted patents are both invalid and not infringed.²

¹ For instance, Olaplex states that this information may be relevant for impeachment purposes, and that Defendants’ experts relied on the PI ruling in their reports. The cited portions of the reports note the experts’ *awareness* of the rulings, not their reliance on them.

² Moreover, if Olaplex is permitted to reference the PI rulings at trial based on its theory, then the PGR decisions (which Olaplex seeks to preclude in another motion *in limine*) demonstrating the invalidity of the asserted patents should likewise be allowed, to afford Defendants a fair retort to Olaplex’s allegations of willfulness, infringement, and validity.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
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Plaintiffs,)	
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v.)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA)	HIGHLY CONFIDENTIAL
PRODUCTS, INC., L'ORÉAL USA S/D, INC.,)	FILED UNDER SEAL
and REDKEN 5 TH AVENUE NYC, LLC,)	
)	
Defendants.)	

**DEFENDANTS' MOTION IN LIMINE NO. 3 TO PRECLUDE
REFERENCE TO L'ORÉAL S.A.'S PARTICIPATION IN AND DISMISSAL
FROM THIS PROCEEDING AND THE U.K. LITIGATION DECISION**

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Defendants respectfully request an order *in limine* precluding Plaintiffs from referencing or using at trial certain information regarding a non-party, L'Oréal S.A. In particular, Defendants request that the Court preclude Olaplex from referring to or eliciting testimony regarding the following at trial: (1) L'Oréal S.A.'s temporary involvement and dismissal from this case; and (2) a decision currently under appeal in the United Kingdom involving L'Oréal S.A, *Liqwd, Inc. v. L'Oréal (U.K.) Ltd.* (the "U.K. Decision").

L'Oréal S.A. is not a defendant in this case. Yet, throughout this case, Olaplex has repeatedly referenced "L'Oréal" indiscriminately in an attempt to blur the lines between the distinct entities to Olaplex's benefit. (*See, e.g.*, D.I. 668 at 4 (arguing "***L'Oréal*** [i.e., L'Oréal USA] has already deposed [Olaplex witnesses] extensively on the subject of Olaplex's alleged prior public use and/or sale of its products ... a contention that was rejected by the court in the U.K. Litigation but which ***L'Oréal*** [i.e., L'Oréal S.A. and L'Oréal (U.K.) Ltd.] continues to pursue on appeal.") (emphasis added).) Defendants expect Olaplex will reference L'Oréal S.A. in an attempt to suggest that a foreign company, rather than L'Oréal USA, Inc., a U.S. company, is the true party in this lawsuit. The fact is that Defendants are U.S. companies just like Olaplex, and any suggestion to the contrary to try to prejudice Defendants should be precluded. In particular, Olaplex should be precluded from referencing L'Oréal S.A.'s former status as a defendant in this case, discovery issues relating to L'Oréal S.A., and a U.K. Decision involving L'Oréal S.A. (*See, e.g.*, Ex. A at 5 (Tiffany Walden asserting that "a judge may consider [the U.K. decision] when assessing the [U.S.] case").) These topics are irrelevant to the case, are likely to confuse/mislead the jury, and carry a substantial risk of unfairly prejudicing Defendants. *See Fed. R. Evid. 401-403.* Thus, this Court should issue an order *in limine* preempting such juror confusion and undue prejudice.

L'Oréal S.A.'s Participation In The Case

This Court has already rejected Olaplex's contention that L'Oréal S.A.—the foreign parent company of L'Oréal USA, Inc., but a separate legal entity—was purportedly “closely related” to Defendants for purposes of this proceeding, and therefore this Court rejected Olaplex's improper attempt to draw L'Oréal S.A. into this case through its First Amended Complaint. (*See* D.I. 186 at 4, 6, 15-16, 38-39, 41-45 (recommending dismissal); D.I. 234 at 2-7 (adopting D.I. 186 in its entirety); *see also* D.I. 117 (L'Oréal S.A.'s motion to dismiss).) Olaplex should be precluded from suggesting to the jury that any negative inference should be made regarding L'Oréal S.A.'s temporary involvement in this case or any discovery directed to L'Oréal S.A.—such as, for example, impugning the Defendants for Olaplex's failure to prove its entitlement to discovery from L'Oréal S.A., a separate entity.

The U.K. Decision

This Court should also preclude reference to and use of the U.K. Decision finding infringement and validity of U.K. Patent GB 2 525 793 by L'Oréal S.A. and L'Oréal (U.K.) Ltd.

First, reference to the U.K. Decision would present a substantial danger of confusing the issues and misleading the jury while its probative value is negligible. *See* Fed. R. Evid. 401-403. Differences between the present case and the U.K. litigation make that decision irrelevant to the present case.¹ For example, the UK Decision is based on laws of a different country and is

¹ Although the *decision* in the U.K. litigation is irrelevant to this case, certain underlying facts, such as prior use by Olaplex, are relevant to certain claims or defenses by both Olaplex and L'Oréal USA. Defendants' motion does not seek to exclude all mention of the U.K. litigation (which may be properly invoked for impeachment purposes, for example), but instead is narrowly targeted to the decision in the case which has no probative value and a high likelihood of unfair prejudice to Defendants in this case, none of which were/are a party to that U.K. litigation.

against different defendants. (*See* D.I. 668, Ex. N). It would be difficult, if not impossible, to instruct a jury on these nuances.

Second, the U.K. Decision is both non-binding and is still on appeal; therefore, any reference to that decision would be highly prejudicial to Defendants at trial. *See Quad/Tech, Inc. v. Q.I. Press Controls B.V.*, 701 F. Supp. 2d 644, 655 (E.D. Pa. 2010) (“foreign patent determinations are not binding in litigation concerning United States patents and patent law”), *aff’d*, 413 F. App’x 278 (Fed. Cir. 2011). Even if the Court finds that the U.K. Decision has minimal relevance, the jury likely will not know how to properly weigh a decision in a foreign jurisdiction that is on appeal. Should the U.K. appellate court reverse (or even criticize) the U.K. Decision, the jury will have already been tainted. The marginal probative value (if any) of the U.K. Decision is vastly outweighed by the high likelihood of unfair prejudice to Defendants by its inclusion.

Third, it would be unfair to allow Olaplex to use the U.K. Decision to persuade the jury that specific outcomes in that case (e.g., infringement of a foreign patent and validity regarding prior use under U.K. law) are relevant to this case when Olaplex vigorously (and successfully) fought to block Defendants’ access to documents from that case. (*See* D.I. 668, 675.) Allowing the use of the decision would be permitting Olaplex to use an outcome while withholding from Defendants the basic information to argue why this outcome is inapplicable. Olaplex cannot have it both ways.

For the foregoing reasons, Defendants respectfully request an order *in limine* precluding Olaplex from referencing or using at trial the participation and dismissal of L’Oréal S.A. in this action or the U.K. Decision.

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Exhibit A

Hair Stories

FROM OLAPLEX

Search ...

Jun 16, 2018

Legal Update: Olaplex Patent Litigation Victory



On Monday, June 11, 2018, a UK High Court Judge ruled that L'Oréal UK and its parent company, L'Oréal SA infringed an Olaplex patent by selling

and using their Smartbond product. Many of our followers have asked for more information about the case, the victory, what it means for hairdressers, and what it means for Olaplex and their on-going US litigation. To help in answer your questions, below is a Q & A with Dean Christal, the CEO and Founder of Olaplex, and Tiffany Walden, Olaplex's General Counsel.

Q: What does Olaplex have patented?

Tiffany: Olaplex has nearly a dozen patents around the world, and more than 100 additional patents pending. They cover a variety of technologies and inventions – some protecting our Olaplex products, some protecting compositions that perform similarly, and some covering new things we haven't yet manufactured. The patent L'Oréal infringed is the use of maleic acid in bleaching mixtures to repair damage to hair.

Q: When did you first learn L'Oréal was infringing your patent?

Dean: A few months before the launch of their infringing products – we started hearing whispers in the industry that L'Oréal was going to launch three products that used maleic acid in bleach – something we had patented in the US, and had a patent pending in the UK. L'Oréal knew we had those patents, so we were shocked that they would brazenly infringe the patent. We didn't want to get in a huge legal battle – it's been incredibly costly and disruptive to our business and personal lives. But we didn't have a choice. I had a phone call with Frederic Roze, the Executive Vice President of the Americas for L'Oréal; I informed him they would be infringing our patent and we would have no choice but to sue, but Frederic wasn't interested in listening to me and ultimately they launched the infringing products.

Q: Why did you sue L'Oréal?

Dean: Truly, we felt like we didn't have a choice. Once we informed them we had patents covering their products – and they told us they were not going to cancel the launch, we had to protect our technology and our investment. Olaplex spent millions creating and patenting our Step 1 technology – we couldn't allow L'Oréal to steal it and then compete against us.

Tiffany: Legally, we have an obligation to enforce our patent rights. If you don't take action when you find people infringing your rights, you are at risk to lose them. We also knew that if L'Oréal got away with patent infringement, every other manufacturer would think they could also infringe our patent.

Q: Are a lot of other people infringing your patent?

Tiffany: No. While there are a lot of knock-off products purporting to be "bond builders" – none of those products work – because they don't use our patented chemistry. Most of the "bond builders" out there are really silicones, oils, and protein treatments – they might make the hair feel good in the short-term, but after a couple of washes, the damage becomes apparent.

Q: Was it scary for you to go up against L'Oréal – given how big and powerful they are in the industry?

Dean: The short answer is yes. From the beginning, we knew we were in the right, everyone knows that Olaplex created this category and we created the technology. L'Oréal is the biggest beauty company in the world and we knew that that they would pull all stops and spend tons of money not to get caught in their illegal acts. We didn't want to go bankrupt protecting our intellectual property but we had no choice. In the US, they control a lot of our distribution through Salon Centric and we knew that once we sued them, we would risk our business at Salon Centric. Ultimately, I decided that the costs and risks were worth it and we needed to sue them to get L'Oréal to stop infringing.

Tiffany: At every stage of the process, we faced an uphill battle because of L'Oréal's size and strength: we had law firms that wouldn't work with us because they do work for L'Oréal. We had experts decline to partner with us because they rely on L'Oréal for consulting work and didn't want to be adverse to them. A lot of times it felt – and it continues to feel – that they're using their size and power to simply try and outspend us and force us into a position where we can no longer afford to litigate this case.

Dean: What they don't seem to understand is that we can't afford not to litigate this case. We've spent millions of dollars on this case – and we've

had to slow down the growth of our business because of it – but if we wouldn't have sued L'Oréal and wouldn't have won – it would have had disastrous consequences long-term for the success of our company.

Q: What was the hardest part of the lawsuit?

Dean: Dealing with the personal attacks from their attorneys. In the UK litigation, their attorney spent hours calling me a liar and a dishonest person. He said the same thing about Dr. Pressly, one of the inventors of Olaplex, and Tracey Cunningham. To hear someone impugn your character, and to have to just sit there and listen to it- is not an easy thing.

Tiffany: Olaplex has about 4 attorneys working for us in each of our lawsuits. Combined, L'Oréal has more than twenty. As I mentioned before, I think one of their strategies is to try and overwhelm our small company by filing frivolous motions, and forcing us to spend a lot of money on legal fees. In the UK, early in the litigation they tried this strategy – they filed motions trying to dismiss L'Oréal SA (the French parent company) from the lawsuit. The day before the hearing, they withdrew the motion. The judge ordered L'Oréal to pay us nearly \$70,000 for withdrawing the motion. So while their techniques aren't always effective, it forces us to spend time and money to defend and oppose their motions and applications.

Q: Now that you've won, what happens next in the UK lawsuit?

Tiffany: In July, we are going to the court and asking for the court to order an injunction, award us our legal fees for winning the case, and to enjoin L'Oréal from continuing to sell the Smartbond Step 1 for use in bleach. L'Oréal has already publicly said they're going to ask the court for permission to appeal.

Q: Can hairdressers in the UK keep using the L'Oréal Smartbond Step 1 product?

Tiffany: A judge has ruled that using Smartbond Step 1 in bleach/lightener to repair hair during the bleaching process infringes our patent. Anyone that uses Smartbond Step 1 in this way is infringing the patent – and could be liable for damages and may also be enjoined.

Dean: Olaplex supports hairdressers and we always have. We know L'Oréal is the bad-actor here, not the stylists, but if hairdressers continue to use Smartbond in a way that infringes our patent – we may be in a position where we're forced to take legal action to get them to stop the infringement.

Q: Does the fact that the product infringes the patent mean that L'Oréal's products are identical to Olaplex?

Tiffany: No. Olaplex owns a variety of patents that cover various inventions. Olaplex's raw materials are far more expensive than L'Oréal's and we believe provide a better product for stylists and colorists.

Q: Why does the judgment only mention the Smartbond product and not Redken pH Bonder or Matrix Bond Ultim8?

Tiffany: In the UK, L'Oréal sells only the Smartbond product – so that is what the Judge focused on.

Q: I know this is just a decision in the UK, does it impact the US or anywhere else in the world?

Tiffany: While the decision is not binding on a US court, we believe that a judge may consider this information when assessing the case. L'Oréal seems to agree with that logic, as they've cited to the UK litigation multiple times in our US proceeding.

OLAPLEX.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	HIGHLY CONFIDENTIAL
PRODUCTS, INC., L'ORÉAL USA S/D, INC.,	)	FILED UNDER SEAL
and REDKEN 5 TH AVENUE NYC, LLC,)	
)	
Defendants.)	

**DEFENDANTS' REPLY IN SUPPORT OF ITS MOTION IN LIMINE NO. 3 TO
PRECLUDE REFERENCE TO L'ORÉAL S.A.'S PARTICIPATION IN AND
DISMISSAL FROM THIS PROCEEDING AND THE U.K. LITIGATION DECISION**

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Defendants' MIL No. 3 was narrowly-tailored to two issues. Contrary to Plaintiffs' hyperbole, Defendants do *not* seek to force the parties to "avoid mentioning L'Oréal S.A. at trial" (Olaplex Opposition ("Opp.") at 1), but instead prevent Plaintiffs from wielding their failure to join L'Oréal S.A. as a weapon to impugn the actual Defendants in the case—as exemplified in the opposition itself. (Opp. at 2 n.2.) Olaplex's failure to obtain discovery from L'Oréal S.A.—a foreign entity not in this case—should not be unfairly characterized by Plaintiffs to taint Defendants.¹ The proper remedy is to exclude reference to L'Oréal S.A.'s participation in this legal proceeding and its dismissal from the case.

Similarly, Defendants' motion made clear that it sought to exclude only the U.K. *decision*, not the underlying facts or the proceeding itself. Injecting the U.K. decision into this case would encourage the jury to abdicate its role as fact-finder, and instead simply follow the U.K. decision, even though that decision is inapplicable on various levels.² For example, Plaintiffs suggest that the decision is necessary to bolster Mr. Christal's credibility. (Opp. at 2.) However, Mr. Christal's credibility—as a central witness in this case—is for the jury in this proceeding to decide, not a judge in the U.K. Further, Plaintiffs' willfulness theory is premised on the faulty predicate that the U.K. decision is notice of U.S. infringement; it is not. Finally, Plaintiffs' non-infringing alternatives rationale is speculation about what they believe "L'Oreal ... would have" done (Opp. at 3 (citing no precedent)), not a legitimate need for the decision.

¹ Plaintiffs' repeated, strategic use of the term "L'Oréal" to impute actions from separate entities onto the Defendants continues. (See Opp. at 3 ("If, as *L'Oréal* [Defendants] claims ... *L'Oréal* [S.A. or U.K.] would have launched them in the U.K."), 2-3 (ambiguously referring to "*its* invalidity arguments" to imply they were positions of Defendants rather than separate, foreign entities).) Plaintiffs' fabricated "full corporate names" argument misses the mark. (Opp. at 1 n.1.)

² As Defendants explained, the decision is not binding on this Court, was regarding different defendants and a different, foreign patent using a different legal standard, and is currently on appeal. (Cf. Olaplex MIL No. 2 (arguing incurable prejudice from the mere mention of a PGR proceeding between the same parties on the patents-in-suit under U.S. patent law).)

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I HEREBY CERTIFY that on May 13, 2019, true and correct copies of the foregoing document were caused to be served on the following counsel of record as indicated:

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 1:17-cv-00014-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA	)	FILED UNDER SEAL
S/D, INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' OPPOSITION TO DEFENDANTS' MOTION IN LIMINE NO. 3 TO
PRECLUDE REFERENCE TO L'ORÉAL S.A.'S PARTICIPATION IN AND
DISMISSAL FROM THIS PROCEEDING AND THE U.K. LITIGATION DECISION**

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May 8, 2018

Plaintiffs (“Olaplex”) oppose Defendants’ (“L’Oréal”) Motion *in Limine* No. 3 to Prelude Reference to L’Oréal S.A.’s Participation in and Dismissal From This Proceeding and the U.K. Litigation Decision (“Motion” or “Mot.”).

I. L’ORÉAL S.A.’S INVOLVEMENT IN THIS CASE AND THE RECORD IS RELEVANT AND PROBATIVE; L’ORÉAL CANNOT SHOW ANY PREJUDICE

L’Oréal S.A. plays a central role in this case.¹ At the critical May 19, 2015 meeting between Olaplex and L’Oréal, two of the three L’Oréal representatives were affiliated with L’Oréal S.A. *See* D.I. 732, at 6. Further, many documents which Olaplex will offer in support of its trade secret and patent infringement claims, include discussion among L’Oréal S.A. and the L’Oréal Defendants regarding Olaplex’s patents, technology, and business. *See, e.g.*, D.I. 734-2, Ex. 105 (May 22, 2015 email from Roger Dolden to numerous L’Oreal S.A. executives—*e.g.*, Nicolas Hieronimus, An Verhulst-Santos, Alain Everard—providing “Detailed notes of May 19 Meeting” and describing information obtained from Olaplex); D.I. 732, at 17(citing D.I. 734-3, Ex. 120) (statement from L’Oréal S.A. President about Olaplex). Olaplex originally named L’Oréal S.A. as a defendant in this action, but L’Oréal S.A. prevailed on a personal jurisdiction motion to dismiss on the basis that it was not a party to the NDAs, and therefore not bound by the Delaware forum selection clause. *See* D.I. 186. However, the decision dismissing L’Oréal S.A. as a party in this case does not eliminate L’Oréal S.A.’s (and its employees) significant involvement in key parts of the factual record. Given this involvement, it is impossible to avoid mentioning L’Oréal S.A. at trial—L’Oréal’s Motion should be denied on that ground alone. Additionally, L’Oréal has not shown any prejudice that would result from the jury learning that

¹ L’Oréal’s claim that Olaplex has attempted to “blur the lines” by, as a matter of convenience and clarity, using the defined term “L’Oréal” for the collective Defendants makes no sense. Mot. at 1. Almost all of L’Oréal’s witnesses and documents use the same short-hand, as do several of the Court’s orders. To the extent L’Oréal somehow seeks an order mandating use of full corporate names, no authority supports that contention and none was proffered.

L'Oréal S.A. was previously a named defendant or that various relevant actors in this case work for L'Oreal S.A. On the contrary, Olaplex would be prejudiced, for example, if it was precluded from explaining who the attendees at the critical May 19, 2015 meeting between the parties worked for (L'Oreal USA and L'Oreal S.A.) and why Olaplex disclosed its trade secrets to them under the NDAs. Not being allowed to inform the jury about L'Oréal S.A.'s role in the factual record and why L'Oréal S.A. is not a defendant, if anything, would confuse the jury as to why such a central actor is not at trial.²

II. THE U.K. LITIGATION DECISION IS RELEVANT FOR PROPER PURPOSES

As a general matter, Olaplex acknowledges that it would not be proper to urge the jury to find validity and infringement of the Asserted Patents in this case merely because a court in the U.K. found in Olaplex's favor on those issues. Olaplex will not do so at trial. However, the fact that identical products were found to infringe foreign counterpart patent to those in suit and its invalidity arguments rejected is probative of several proper issues in this case.

The U.K. decision is relevant for examination of at least one of L'Oréal's experts. James Pooley, L'Oréal's "reasonable efforts" expert, expressly relied on a witness statement submitted by Olaplex founder Dean Christal *in the U.K. litigation*, determined that it lacked credibility, discounted it, and would urge the jury that it should do the same as to Mr. Christal. *See* D.I. 720, Ex. 6, at ¶¶ 28 & nn.5, 7-9; *see also* D.I. 691, at 9-10, 18-19. That the judge presiding over the U.K. litigation reached the opposite conclusion is competent evidence to impeach this opinion, for which L'Oréal opened the door. Further, the U.K. judgment is probative of willfulness. Olaplex seeks enhanced patent damages on the basis that L'Oréal's infringement was willful. D.I. 650, at

² Notably, this Court granted an opposed Motion for a Letter Request compelling discovery (documents and deposition) from L'Oréal S.A., which was objected to by the L'Oréal defendants. but L'Oréal S.A. to date has not provided any documents and did not show up for its deposition on the date the French court enforcing the Request set for its deposition.

27. Notice of infringement is relevant to that inquiry. *Zimmer Surgical, Inc. v. Stryker Corp.*, 2019 WL 1082336, at *13 (D. Del. Mar. 7, 2019). The fact that the U.K. court sided with Olaplex on the same Accused Products with respect to a foreign counterpart patent to those in suit and its invalidity arguments rejected rebuts L'Oréal's expert's claim that L'Oreal held a good faith belief of noninfringement and invalidity. Similarly, L'Oréal continues to sell its Accused Products despite this Court's Order granting a preliminary injunction to stop such sales (notwithstanding the Court's need to enter an order regarding the appropriate bond amount). D.I. 785; 792. Further still, the U.K. judgment is probative of the alleged availability of reasonable non-infringing alternatives.³ If, as L'Oréal claims, non-infringing alternatives to Olaplex's products are available, then L'Oréal presumably would have launched them in the U.K. after the U.K. court found that L'Oréal's Accused Products infringe and that the patent is valid. It did not do so, making it less likely that its litigation manufactured "alternatives" are reasonable, viable or legitimately available.

To the extent the U.K. decision would introduce any prejudicial harm, such prejudice can be addressed through an instruction that the U.K. decision is not binding here, was made under different law, and involved different defendants. Such an instruction is far from "difficult, if not impossible" to give, as L'Oréal claims. Mot. at 2. Indeed, juries are presumed to follow instructions from the bench. *Citizens Fin. Group, Inc. v. Citizens Nat'l Bank*, 383 F.3d 110, 133 (3d Cir. 2004) ("This Court presumes that the jury followed the Court's instructions.").

III. CONCLUSION

Olaplex respectfully requests that the Court deny L'Oréal's Motion.

³ The availability of non-infringing alternatives goes to the availability of lost profits under *Panduit*. *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1290 (Fed. Cir. 2017). L'Oréal's rebuttal damages expert opines that non-infringing alternatives are available, and that Olaplex's claim to lost profits should therefore be denied. D.I. 720, Ex. 7, at ¶¶ 57-76.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

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Plaintiffs,)	
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v.)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA)	HIGHLY CONFIDENTIAL
PRODUCTS, INC., L'ORÉAL USA S/D, INC.,)	FILED UNDER SEAL
and REDKEN 5 TH AVENUE NYC, LLC,)	
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Defendants.)	

DEFENDANTS' MOTION IN LIMINE NO. 4 TO EXCLUDE EVIDENCE OF OR
REFERENCE TO POTENTIAL EMPLOYMENT OF
CRAIG HAWKER AND ERIC PRESSLY

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Pursuant to Federal Rules of Evidence 401-403, Defendants respectfully request that this Court preclude Plaintiffs from referencing at trial L'Oréal USA, Inc.'s preliminary contact with Drs. Pressly and Hawker inquiring as to their interest in working for L'Oréal USA, Inc. (D.I. 245 ¶ 8; Ex. A hereto.) Notwithstanding the routine nature of such an inquiry, Defendants believe that Plaintiffs may seek to introduce email correspondence between a recruiter and Drs. Hawker and Pressly to support their claim that Defendants sought to steal Plaintiffs' confidential information. (*See, e.g.*, D.I. 732 at 2, 18-19 (referencing this inquiry in opposition to Defendants' Motion for Summary Judgment as to Plaintiffs' Claims for Misappropriation of Trade Secrets and Breach of Contract).) This inquiry is irrelevant to Plaintiffs' claim of trade secret misappropriation or any other issue in this case. Reference to this inquiry would be highly prejudicial to Defendants, likely to mislead and confuse the jury, and waste time in an already tight schedule.

I. L'ORÉAL USA, INC.'S ROUTINE OUTREACH TO MEMBERS OF THE SCIENTIFIC COMMUNITY IS IRRELEVANT TO PLAINTIFFS' ALLEGED TRADE SECRET MISAPPROPRIATION CLAIM OR ANY OTHER ISSUE.

There is no probative value to L'Oréal USA, Inc.'s routine outreach to chemists for potential employment (including Drs. Pressly and Hawker). On March 2, 2015, a Talent Acquisition Director for L'Oréal USA, Inc.'s Research and Innovation team sent Dr. Craig Hawker a single e-mail, expressing interest in "an exploratory conversation to discuss [his] background and potential opportunities [] at L'Oréal." (Ex. A hereto.) Dr. Hawker indicated that he "did not respond to L'Oréal[]." (D.I. 245 ¶ 8.) And there is no evidence that L'Oréal USA, Inc. made any further attempts to contact Drs. Hawker or Pressly. Contrary to Olaplex's insinuations, (*see* D.I. 732 at 18-19), such a standard introductory email sent to a potential job candidate has no bearing on whether Olaplex's alleged "trade secrets" were either readily ascertainable or misappropriated.

First, although “[a]n inference of secrecy may [] be drawn from the fact that defendant resorted to improper means to obtain the information” (*id.* at 17), there is nothing improper about L’Oréal USA, Inc.’s outreach to Dr. Hawker. In fact, Olaplex itself considered reaching out to L’Oréal USA, Inc.’s employees to discuss employment opportunities as well. (*See* Ex. B hereto (Oct. 12, 2016 email from Tiffany Walden considering several L’Oréal USA employees for Olaplex’s “VP of Education” position).) The mere fact that a recruiting manager at L’Oréal USA, Inc. explored the possibility of hiring Drs. Pressly and Hawker is of no relevance to Olaplex’s assertion that its purported “trade secrets were, in fact, secret” (D.I. 732 at 17), and it would be improper for Olaplex to introduce such evidence to suggest any malicious intent by L’Oréal USA, Inc.

Second, unlike actual employment of a trade secret holder’s former employees, unsuccessful recruitment attempts do not tend to make alleged misappropriation more or less probable, and thus are irrelevant. *See* Fed. R. Evid. 401. As Dr. Hawker testified, he and Dr. Pressly “did not respond.” (D.I. 245 ¶ 8.)

Third, the irrelevance of L’Oréal USA, Inc.’s outreach to Dr. Hawker is evidenced by its omission from Olaplex’s trade secret expert report and the deposition of L’Oréal USA, Inc.’s corporate representative on this topic. In particular, Olaplex’s purported trade secret expert, Mr. Schoon, did not mention L’Oréal USA, Inc.’s single employment inquiry in his expert report. (*See generally* D.I. 749, Ex. 1.) Additionally, Olaplex asked no questions regarding this issue to L’Oréal USA, Inc.’s designated corporate witness on this topic. (*See* Ex. C hereto (Plaintiff’s Amended Third Notice of Deposition Pursuant to Fed. R. Civ. P. 30(b)(6)) at ¶ 43.)

II. REFERENCE TO L'ORÉAL USA, INC.'S CONTACT WITH DRs. PRESSLY AND HAWKER WILL UNFAIRLY PREJUDICE DEFENDANTS, CONFUSE AND MISLEAD THE JURY, AND WASTE TIME.

If Olaplex is allowed to reference L'Oréal USA, Inc.'s preliminary outreach to Dr. Hawker at trial, it likely will insinuate to the jury—as it did to the Court—that this common recruiting practice is somehow evidence of nefarious activity by L'Oréal USA, Inc.; it is not. As discussed above, such routine recruitment practice is irrelevant to Olaplex's trade secret claims, and whatever probative value it has is substantially outweighed by the substantial prejudice to Defendants. *See* Fed. R. Evid. 401-403. Inquiries and reference to this issue at trial will not only unfairly prejudice Defendants, it will confuse and/or mislead the jury by mingling standard recruiting practices with Olaplex's unsubstantiated conspiracy theory concerning the motivation behind the inquiries. Moreover, reference to L'Oréal USA, Inc.'s recruiting contact with Dr. Hawker will waste time at trial, as it would likely lead to discussions concerning routine and common recruiting practices within the industry and at L'Oréal USA, Inc. Presentation of such tangential evidence would be a waste of time in an already tight trial schedule.

Olaplex should be precluded from referencing or using at trial any evidence relating to L'Oréal USA, Inc.'s preliminary contact with Drs. Pressly and/or Hawker.

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Dated: May 1, 2019

CERTIFICATE OF SERVICE

I hereby certify that on May 1, 2019, true and correct copies of the foregoing document were caused to be served on the following counsel of record as indicated:

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/s/ Jason J. Rawnsley

Jason J. Rawnsley (#5379)
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Exhibit A

Date: Mon, Mar 2, 2015 at 4:26 PM

Subject: Fw: L'Oreal

To: dean christal <dean@olaplex.com>, Eric Pressly <eric.pressly@gmail.com>

Dear Dean and Eric,

I think the number of wacko emails increases in a linear relationship with the # of instagram/facebook users - on average about one a day hits the junk folder.

However this one did give me a chuckle and illustrates why big companies may not always be the most efficient - at the very least, Eric - we have opportunities =))))

Hope all is well.

Warmest regards

Craig

From: RYAN Kathleen <kryan@us.loreal.com>

Sent: Monday, March 2, 2015 9:46 AM

To: Craig Hawker

Subject: L'Oreal

Dear Dr. Hawker,

I hope this message finds you well. My name is Kathy Ryan. I manage Talent Acquisition for L'Oreal Research & Innovation, US. We are extremely impressed with the work you have done with Olaplex. I would love the opportunity to have an exploratory conversation to discuss your background and potential opportunities here at L'Oreal. If you are interested, please let me know when would be the best times and number to reach you. Either way, I look forward to your response.

L'Oréal is the world's largest cosmetic company with the highest investment in R&I in the industry. Founded in 1909 by a young chemist, Eugene Schueller, L'Oréal continues to excel in science and innovation. L'Oréal's Research and Innovation employs over 4,000 people of approximately 60 nationalities. Working in some thirty disciplines, more than half of these employees have doctorates or engineering degrees, and they are responsible for about 600 patents filed per year.

Sincerely,

Exhibit B

Message

From: Tiffany Walden [tiffany@olaplex.com]
Sent: 10/12/2016 2:14:00 PM
To: Dean Christal [dean@olaplex.com]; Darcy Christal [darcy@olaplex.com]
Subject: Fwd: Education Program Outline
Attachments: Olaplex VP of Education.docx; Untitled attachment 10615.htm

Dean/Darcy:

Here is the job description for VP of Education. I found a handful of candidates on LinkedIn, that I can reach out too and we can also post the job online if you would like. I have also included Jordan's email outlining his education plan.

Let me know if you would like to like me to start the search process.

Thanks,
Tiffany

VP of Education Candidates:

Holly Johnson, VP of Global Education, AVEDA
Kevin Molin, VP of Technical Education, AVEDA (https://www.linkedin.com/in/kevin-molin-9831167?authType=name&authToken=wkb0&trk=prof-sb-browse_map-name)
Christopher Hermann, Director of Education Development, AVEDA (https://www.linkedin.com/in/christopher-hermann-23932a7?authType=name&authToken=9IWf&trk=prof-sb-browse_map-name)
Ali Yanez, Director of Education - North America, AVEDA (https://www.linkedin.com/in/ali-yanez-3bab4a39?authType=name&authToken=r5yJ&trk=prof-sb-browse_map-name)
Sheri Doss, VP of Education, Redken (<https://www.linkedin.com/in/sheri-doss-33b36119>)
Marlene Arce, VP Education at L'Oreal Professionnel, Kerastase and Shu Uemura Art of Hair (https://www.linkedin.com/in/marlene-arce-7704777?authType=name&authToken=EcWo&trk=prof-sb-browse_map-name)
Rachel Flowers, Education Development Director, L'Oreal Professional (https://www.linkedin.com/in/rachel-flowers-04ba3413?authType=name&authToken=DEW2&trk=prof-sb-browse_map-name)
Katherine Oechsle-Truesdale, Director of Education, L'Oreal (https://www.linkedin.com/in/oechsle-truesdale-katherine-b2a49418?authType=name&authToken=vvUr&trk=prof-sb-browse_map-name)
Kathleen Mattie, AVP, Education Development at Redken & Pureology, (https://www.linkedin.com/in/kathleen-mattie-2a357420?authType=name&authToken=xAEe&trk=prof-sb-browse_map-name)
Fabio, VP Education North America P&G/Coty (<https://www.linkedin.com/in/fabiosementilli>)
Robb Dubre, Head of Artistic and Education, Kenra (https://www.linkedin.com/in/robb-dubre-a12020a?authType=name&authToken=EaHn&trk=prof-sb-browse_map-name)

Tiffany Walden
General Counsel
Olaplex, LLC

Begin forwarded message:

From: Jordan Alexander <jordan@olaplex.com>
Subject: Education Program Outline
Date: October 12, 2016 at 10:05:17 AM PDT
To: Tiffany Walden <tiffany@olaplex.com>, Dean Christal <dean@olaplex.com>

Hi Dean / Tiffany,

Until a new vice president of education is hired, this is the program I was originally working on to launch domestic education with costs considered below. We could get this rolled out within 60-90 days. Let me know

Exhibit C

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 17-14 (JFB) (SRF)
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	HIGHLY CONFIDENTIAL
PRODUCTS, INC, L'ORÉAL USA S/D,)	
INC., and REDKEN 5 TH AVENUE NYC,)	
L.L.C.,)	
)	
Defendants.)	

PLAINTIFFS' AMENDED THIRD NOTICE OF DEPOSITION TO L'ORÉAL USA, INC., L'ORÉAL USA PRODUCTS, INC., L'ORÉAL USA S/D, INC., AND REDKEN 5TH AVENUE NYC, LLC. PURSUANT TO FED. R. CIV. P. 30(b)(6)

PLEASE TAKE NOTICE that Plaintiffs, Liqwd, Inc. and Olaplex LLC (collectively "Plaintiffs"), will take the testimony by deposition upon oral examination of Defendants L'Oréal USA, Inc., L'Oréal USA Products, Inc., L'Oréal USA S/D, Inc., and Redken 5th Avenue NYC, LLC (collectively, "Defendants") pursuant to Fed. R. Civ. P. 30(b)(6). Defendants shall designate one or more officers, directors, managing agents, or other representative(s) who consent to testify on Defendants' behalf regarding the matters set forth in attached Schedule A no less than fourteen (14) days before the day set for the deposition, including which portion(s) of this Notice each deponent is prepared to discuss.

PLEASE TAKE FURTHER NOTICE THAT, the deposition will commence at 9:00 a.m. on November 13, 2018, or at a date and time to be mutually agreed upon by counsel, and will continue until completion with such adjournments as may be necessary. The deposition will take place at the offices of Quinn Emanuel Urquhart & Sullivan LLP, 865 S. Figueroa Street, 10th Floor, Los Angeles, CA 90017, or at a place to be mutually agreed upon by counsel. The deposition shall be taken before an officer, notary public, or other person duly authorized to

administer oaths. You are invited to attend and cross-examine. The testimony will be recorded by stenographic, audio, video, and/or real-time transcription means.

Plaintiffs have prepared this amended notice of deposition based on information and discovery currently available to them. Plaintiffs reserve the right to serve one or more supplemental 30(b)(6) notices as they continue their review of Defendants' current and future document productions and as discovery progresses.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Jeremy A. Tigan

Jack B. Blumenfeld (#1014)

Jeremy A. Tigan (#5239)

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150 California Street, Suite 2200

San Francisco, CA 94111

(415) 692-5202

November 2, 2018

SCHEDULE A

DEFINITIONS AND INSTRUCTIONS

1. “Olaplex” means Liqwd, Inc. and Olaplex LLC, the plaintiffs in this action, unless otherwise expressly stated.

2. “You,” “Your,” and “L’Oréal” mean L’Oréal USA, Inc., L’Oréal USA Products, Inc., L’Oréal USA S/D, Inc., and Redken 5th Avenue NYC, L.L.C., the Defendants in this action, and any predecessor or successor of L’Oréal, and any past or present parent (including L’Oréal S.A.), division, subsidiary (including SalonCentric), affiliate, joint venture, associated organization, director, officer, agent, employee, consultant, staff member, counsel, patent agent, or other representative of L’Oréal in any country.

3. This “Action” means District of Delaware Civil Action No. 17-cv-00014, and the previously filed litigation in the Central District of California, Case No. 2:16-cv-08708.

4. “Complaint” means the latest version of Olaplex’s complaint in the District of Delaware Civil Action No. 17-cv-00014, and any amended version(s) of the complaint as of the date that such amended version is filed with the Court.

5. The “Asserted Patents” means the patents asserted by Olaplex in the latest version of Olaplex’s Complaint in this litigation, including United States Patent Nos. 9,498,419 (“the ’419 Patent”) and 9,668,954 (“the ’954 Patent”), and all underlying patent applications, continuations, continuations-in-part, divisionals, reissues, provisionals, and any other patent applications regarding the Asserted Patents. Any additional patent or patents asserted by Olaplex in any amended version(s) of the complaint are within the meaning of the term as of the date that such amended version is filed with the Court.

6. “L’Oréal Patent Application” means U.S. Patent Application Serial No. 15/484,625; U.S. Patent Application Serial Nos. 15/484,663; PCT/US2016/063724; PCT/US16/30172; U.S. Provisional Patent Application No. 62/259,564; U.S. Provisional Patent Application No. 62/155,931; U.S. Provisional Patent Application No. 62/155,900 and all underlying patent applications, continuations, continuations-in-part, divisionals, reissues, provisionals, and any other patent applications relating to the substance of the L’Oréal Patent Application.

7. “Olaplex Trade Secrets” means the confidential and valuable trade secret information described and disclosed to L’Oréal as described in Olaplex’s Second Amended Complaint, including but not limited to paragraphs 40-59 and 62-64, and in response to Your document requests and interrogatories. Any additional Olaplex Trade Secrets in any amended version(s) of the complaint are within the meaning of the term as of the date that such version is filed with the Court.

8. “Olaplex Confidential Information” has the meaning of the term “Confidential Information” as defined by the Confidentiality Agreement, dated May 15, 2015, and attached as Exhibit C to the Second Amended Complaint.

9. “Infringe” and “Infringement” mean direct infringement, contributory infringement, infringement by inducement, literal infringement, and infringement by the doctrine of equivalents.

10. “Maleic acid” means the formula illustrating maleic acid depicted below:



and “salts of maleic acid” means all salts of maleic acid.

11. The “Accused Products” means each and every product either previously or currently made, used, sold, or offered for sale by L’Oréal that Olaplex contends infringes any claim of the Asserted Patents in the latest version of Olaplex’s Complaint including but not limited to the Matrix Bond Ultim8 Step 1 Amplifier; Matrix Bond Ultim8 Step 2 Sealer; Matrix Bond Ultim8 Step 3 Sealing Treatment; Redken pH-Bonder #1 Bond Protecting Additive; Redken pH Bonder Step 2 Fiber Restorative Pre-Wash Concentrate; Redken pH Bonder Step 3 Post-Service Perfector; L’Oréal Professionnel Smartbond Step 1 Additive; L’Oréal Professionnel Smartbond Step 2 Pre-Shampoo; and L’Oréal Professionnel Smartbond Step 3 Conditioner. Any additional L’Oréal products accused by Olaplex in any amended version(s) of the Complaint are within the meaning of the term as of the date that such version is filed with the Court.

12. The term “product” should be understood to include any product, device, apparatus, process, method, system, media, or instrumentality.

13. “Bleaching Treatment” means a chemical treatment performed to remove dye and/or natural pigment from hair.

14. “Coloring Treatment” means a chemical treatment performed to add a colorant or pigment that is customarily used in hair care products, which changes the color or tone of the hair it is applied to based upon visual inspection.

15. “Standalone Treatment” means with respect to the use of the Accused Products a treatment with the Accused Products that does not involve use of a Bleaching Treatment or Coloring Treatment mixed with the Accused Products for application to hair.

16. The term “Bond Builder” refers to products that protect and repair hair during and after chemical treatments that include maleic acid and its derivatives thereof, specifically including the Accused Products and Olaplex.

17. “Document” or “Documents” is defined to be synonymous in meaning and equal in scope to the usage of this term in Fed. R. Civ. P. 34, including, without limitation, hard copies as well as electronic or computerized data compilations. A draft or non-identical copy of a document is a separate document within the meaning of this term. Document includes all written, graphic or otherwise recorded material, including without limitation, microfilms or other film records or impressions, tape recordings or computer cards, floppy disks or printouts, any and all papers, photographs, films, recordings, memoranda, books, records, accounts, communications, letters, telegrams, correspondence, notes of meetings, notes of conversations, notes of telephone calls, inter-office memoranda or written communications of any nature, recordings of conversations either in writings or upon any mechanical or electrical recording devices, including electronic mail (“e-mail”), notes, papers, reports, analyses, invoices, canceled checks or check stubs, receipts, minutes of meetings, time sheets, diaries, desk calendars, ledgers, schedules, licenses, financial statements, telephone bills, logs, and any differing versions of any of the foregoing, whether so denominated, formal, informal or otherwise, as well as copies of the foregoing which differ in any way, including by the addition of handwritten notations or other written or printed matter of any nature, from the original. The foregoing specifically includes information stored in a computer database and capable of being generated in documentary form, such as e-mail.

18. “Communication” means, without limitation, any transmission, conveyance or exchange of a word, statement, fact, thing, idea, document, instruction, information, demand or

question by any medium, whether by written, oral, or other means, including but not limited to, electronic communications.

19. “Distributors” refers to SalonCentric, Beauty Systems Group (also known as BSG and/or CosmoProf), Ulta, Ratner, Beauty Brands, Yellowwood, Masello, Four Star, East Coast Salon Services, Reliable, State Beauty Supply, RDA Beauty Supply, Armstrong McCall, Aurora Beauty Supply, Island Beauty, Champion Beauty Supply, Four Star Salon Services, Atlantic Star Salon Services, Northern Star Salon Services, TruStar Salon Services, Midway Star Salon Services, Western Star Salon Services, Mountain Star Salon Services, Future Visions Salon Services, Paul Mitchell N. New England, Bravo Distributors, Inc., Bionexia, TRI/Hayashi, George Riley, R. Stafford, Salon Direct, TRU Beauty Concepts, Thomassen Beauty Systems, New Age Beauty Distributor, Ace Beauty & Nail Supply, Hawaiian Beauty, Hairs the Bling, SalonRedi Yellowwood, Discover Salon Services, WS Beauty, Windsor Beauty, J&J Beauty, Millenium Beauty, Useful Salon Solutions, Goldwell NY, Beyond Basics Beauty Supply, Elite Salon Distributors, Capps Beauty, Eugene Beauty Supply, D&D Beauty, Panache, Taylor B&B, Pan American B&B, Metro Beauty, Urban Beauty Systems, and any other sellers or suppliers of the Accused Products.

20. “Person” refers to any individual, corporation, proprietorship, association, joint venture, company, limited liability company, partnership, limited liability partnership, or other business or legal entity, including governmental bodies and agencies.

21. “Information” refers to any facts, data, statistics, or other information provided or learned through written or oral communication.

22. “Sources” means any document storage system, document management system, or server (whether on-site, web-based, or cloud-based, such as an email server or account,

Amazon Web Services server or account, or other third-party managed database or enterprise system), any computer (laptop, desktop, and/or server), and/or any other form of electronic or hard-copy media, including but not limited to, electronic storage devices, external hard drives, zip drives, memory sticks, jump drives, USB/flash drive devices, CDs, DVDs, floppy disks, Blackberries, other PDAs, cell phones, tablets, physical storage systems or locations for Documents, and/or any other electronic device capable of storing, transmitting, or receiving electronic data.

23. “Thing(s)” refers to any physical specimen or tangible item, including research and development models, samples, prototypes and the like.

24. “Referring to,” “Relating to,” “Regarding,” “Concerning,” or any variation thereof, means containing, describing, discussing, embodying, commenting upon, identifying, incorporating, summarizing, constituting, comprising, or otherwise pertinent to the matter or any aspect thereof.

25. “And” and “or” shall be construed either disjunctively or conjunctively as necessary to bring within the scope of the interrogatory all responses that might otherwise be construed to be outside of its scope.

26. The terms “any” and “all” shall each mean and include the other.

27. The term “including” shall mean “including but not limited to.”

28. The term “each” shall mean “each and every.”

29. The use of the singular form of any word includes the plural and vice versa.

30. The use of a verb in any tense includes use of the verb in all other tenses.

31. “Identity” means the name, address, past and present job title(s), and current employment status of any individual natural person.

32. “PTO” means the United States Patent and Trademark Office.

33. “Defendants’ Labeling” means all drafts and proposed versions of the package brochure, label, or any other written materials that Defendants have considered, plans, intends to distribute, or have distributed with the Accused Products.

TOPICS FOR EXAMINATION

1. The dates on which You first made, had made, used, imported, exported, offered for sale and/or sold each of the Accused Products.

2. When and how You first became aware of any of the Asserted Patents.

3. When and how Defendants first received any copy, summary or description of the Asserted Patents, including but not limited to LIQ 103 US Utility application, filed May 15, 2015 (U.S.S.N. 14/713,885), LIQ 103 PCT Application, filed May 15, 2015 (PCT/US2015/031166) and LIQ 104 Provisional application, filed April 24, 2015 (U.S.S.N. 62/152,220), or any information derived from the Asserted Patents.

4. All submissions You made to the United States Patent and Trademark Office concerning or relating to the Asserted Patents including but not limited to the Third Party Submissions dated August 25, 2016, August 29, 2016, September 14, 2016 and September 23, 2016 submitted in connection with U.S. Patent Application No. 15/087,415, published as U.S. Publication No. 2016/0206535. (For clarity, the Third Party Submissions referenced in this Topic were also submitted as Exhibits 2006-2009 in PGR2017-00011.)

5. Any efforts to analyze, discuss, examine or consider whether the Accused Products, including any previous or potential new formulas for the Accused Products, are covered by any claim of the Asserted Patents.

6. For each of Your step 1, step 2, and step 3 formulas for the Accused Products, including but not limited to P1, P2, P3, P4, C2, C3, C4, C5, C6, C7, C8 and formula numbers 1200591, 1112405 and 38433 RDK, and any others identified in LO_USA0011302-03:

- a. The creation and development of the formulas, including Persons involved;
- b. Any proposal, decision, consideration, or deliberation relating to the creation and development of the formulas;

- c. The earliest date of creation of each formula and all corroborating documents;
 - d. Any research, experiments, analysis and/or testing of the formulas; and
 - e. Any failure, shortcoming, deficiency, problem, or limitation You experienced.
7. For each of Your step 1, step 2, and step 3 formulas for the Accused Products, including but not limited to P1, P2, P3, P4, C2, C3, C4, C5, C6, C7, C8 and formula numbers 1200591, 1112405 and 38433 RDK, and any others identified in LO_USA0011302-03, to the extent they contain maleic acid or its salts:
- a. Any creation, proposal, consideration, deliberation and decision relating to the use of maleic acid, or its salts, in the formulas and all corroborating documents;
 - b. The date(s) You first created, proposed, considered, deliberated and decided to use maleic acid, or its salts, in the formulas and all corroborating documents;
 - c. Any research, experimentation, analysis and/or testing concerning the use of maleic acid, or its salts in the formulas, including but not limited to the concentration of maleic acid, or its salts, in the formulas, and all corroborating documents; and
 - d. Your understanding and belief about the purpose of maleic acid, or its salts, in the formulas at the time of creation and throughout development of the formulas and all corroborating documents; and
 - e. All persons involved in these activities.
8. The concentration of maleic, or its salts, when the Accused Products are combined with Bleaching Treatments and the methodology You use to assess such concentration, and documents showing these assessments.

9. For each of Your step 1, step 2, and step 3 formulas for the Accused Products, including but not limited to P1, P2, P3, P4, C2, C3, C4, C5, C6, C7, C8 and formula numbers 1200591, 1112405 and 38433 RDK, and any others identified in LO_USA0011302-03, the research, experiments, analysis and/or testing You used to determine the analytical, physical and/or chemical stability of each formula, including but not limited to nuclear magnetic resonance (“NMR”) testing as identified in paragraph 55 of the Complaint, the date(s) on which the testing was performed and corroborating documents.

10. Your knowledge of the properties of maleic acid, or its salts, alone or in solution, as a hair protecting additive in connection with Bleaching Treatments, including but not limited to the conditions at which maleic acid is converted to its salt forms and the conditions at which bleaching takes place, and the date(s) on which you learned of this knowledge.

11. For each of Your step 1, step 2, and step 3 formulas for the Accused Products, including but not limited to P1, P2, P3, P4, C2, C3, C4, C5, C6, C7, C8 and formula numbers 1200591, 1112405 and 38433 RDK, and any others identified in LO_USA0011302-03, the research, experiments, analysis and/or testing You conducted to determine its effect on hair breakage.

12. Your knowledge and use of TRI Princeton Research Education Service testing for the Accused Products, including but not limited to Measurement of Dry Combing Forces (LO_USA0018791), Repeated Grooming (LO_USA0018868, LO_USA0019032 and LO_USA0065396) and Strength Testing of Hair: Miniature Tensile Testing (LO_USA0019377 and LO_USA0019869).

13. Your testing of hair that has undergone Bleaching Treatment, including but not limited to cysteic acid, miniature tensile testing (with wet hair), brushing (wet to dry hair),

repeated grooming (dry hair), DSC, SAPHIR, labile protein, and any others identified in LO_USA0064029-30, and Your understanding of the differences between these tests.

14. Industry standards for assessing and determining hair breakage, including Your knowledge and understanding of physical breakage of hair due to damages caused by Bleaching Treatments.

15. Testing, analysis or experiments referenced in or related to any L'Oréal Patent Application, including but not limited to all results, outcomes or conclusions of such testing (including for the Accused Products and any predecessor or successor formulas such as P1, P2, P3, P4, C2, C3, C4, C5, C6, C7, C8 and formula numbers 1200591, 1112405 and 38433 RDK, and any others identified in LO_USA0011302-03).

16. Your protocols and testing of Olaplex's products, Bond Builders, and any other product that markets itself as or claims to be capable of protecting and/or repairing bonds in hair.

17. Your education, training, use, and support of the Accused Products, and Your knowledge of customers use of the Accused Products in Bleaching Treatments, Coloring Treatments or as Standalone Treatments.

18. Your research and development costs relating to the Accused Products.

19. Your Bleaching Treatments offered, recommended, instructed, suggested or which You know that consumers buy with or use with the Accused Products.

20. The Persons, employees, departments, organizations, or other entities that created, developed, test, use, manufacture, and market each of the Accused Products.

21. Your actual and projected sales (quantity of units sold and revenues), profits (gross profits, operating profits, profits before taxes, net profits, and any other type of profits You typically calculate), market share, and pricing with respect to each Accused Product by

product SKU and distributor sold anywhere in the world, including the amount and category (e.g., sales, administrative, direct labor, royalties) of each element of cost involved in the manufacturing, marketing, distribution, and sale of each Accused Product since launched.¹

22. Your system and database software for tracking and recording actual and/or projected sales (quantity of units sold and revenues), profits (gross profits, operating profits, net profits, and any other type of profits You typically calculate), profits before taxes, market share, and pricing with respect to sales of the Accused Products, including (a) the identification of every field available in the database, (b) who enters information into the database and the sources of the information; (c) who has access to the information; (d) the types of financial reports that can be prepared from the database; (e) the types of information that can be queried or extracted from the database; (f) and Your record-keeping practices of such information.

23. The manufacture of the Accused Products, including each step involved in the manufacturing process of any intermediary product and each final Accused Product, including an identification of the manufacturer, source, product number, and product name of each ingredient used in all current and all previous versions of the Accused Products.

¹ For clarity, this includes sales, profits, market share, and pricing recognized by L'Oréal USA, Inc., L'Oréal USA Products, Inc., L'Oréal USA S/D, Inc., and Redken 5th Avenue NYC, L.L.C., the Defendants in this action, and any predecessor or successor of L'Oréal, and any past or present parent (including L'Oréal S.A.), division, subsidiary (including SalonCentric), affiliate, joint venture, associated organization, director, officer, agent, employee, consultant, staff member, counsel, patent agent, or other representative of L'Oréal in any country. This also includes "Representatives" as defined in the parties' NDA for which "[L'Oréal USA] shall be responsible for any breach of this Agreement by our Representatives to the same extent as if they were parties hereto and shall take all reasonable measures . . . to restrain [its] Representatives from making any unauthorized use or disclosure of any Confidential Information" and "[L'Oréal USA] shall be responsible for any breach of this paragraph by [its] Representatives to the same extent as if they were parties hereto."

24. The identity of the specific L'Oréal entity, affiliates, or other entities that manufacture, market, offer for sale, sell, import and/or export the Accused Products anywhere in the world, including the location(s) in which they conduct each of these activities.

25. The identity of the specific L'Oréal entity, affiliates, or other entities that realize, recognize, or otherwise track revenue, profits and losses in the ordinary course of business related to the manufacture, market, offer for sale, sell, import and/or export of the Accused Products anywhere in the world.

26. Your revenue sharing models and ratios with any third parties with respect to the Accused Products or services relating thereto.

27. The development, assembly, manufacture, and/or importation into the United States of the Accused Products or components thereof by or on behalf of You, including any third parties involved and the nature and extent of their involvement.

28. Communications between You and any manufacturer, supplier and/or distributor of the Accused Products, including but not limited to any contracts and/or agreements for manufacture, supply and/or distribution.

29. Identity of the manufacturer(s) and supplier(s) of the Accused Products and their geographic locations, including but not limited to Persons who process and/or mix the ingredients in the Accused Products.

30. The process(es), method(s), or other sequence(s) or step(s) concerning the production, testing, packaging, shipping and/or ultimate point of sale and use of the Accused Products.

31. Promotional, sales, and marketing activities with respect to the Accused Products, including, but not limited to, sampling, rebates, discounts, and/or other incentives offered for the

purchase of the Accused Products and strategies for the promotion and marketing of the Accused Product for each Accused Product since launched.

32. Projects “Olivia,” “Lemon,” and any other pseudonyms or aliases created or used by You or your counsel for Your discussions with Olaplex that began in early 2015.

33. Your knowledge regarding the historical, current, and projected future percentage of consumers that use the Accused Products with Bleaching Treatments, Coloring Treatments or as Standalone Treatments.

34. Your proposal, decision, deliberation, and consideration, whether attempted or successful, in directly or indirectly, replacing, supplanting, or otherwise substituting the Accused Products in place of Olaplex’s products in any product placement, promotion, advertising, sale, or other Bond Builder market opportunity, including but not limited to the Rachel Ray show “makeover” segment.

35. Your efforts to, directly or indirectly, compete with Olaplex in the Bond Builder market and take, capture or otherwise acquire Olaplex’s Bond Builder market share, including but not limited to targeting or soliciting by any means Olaplex customers (e.g., salons, stylists and their clients).

36. Your, direct or indirect, proposal, decision, deliberation, and consideration of product placement of the Accused Products relative to Olaplex’s products (e.g., at events, retail stores, catalogs, trade shows, etc.).

37. Your, direct or indirect, promotions of the Accused Products (e.g., Salon Centric KPIs, salon purchasing incentives, discounts, premiums, free products, rewards, etc.).

38. Your, direct or indirect, head-to-head and comparative advertising and marketing of the Accused Products relative to Olaplex's products including on social media (e.g., Instagram, Facebook, through use of influencers, etc.).

39. Your proposal, decision, deliberation, and consideration of marketing and product packaging for the Accused Products that is similar or identical to marketing and product packaging used with Olaplex's products (e.g., instructions for use, use of a three step system, concentration of active agent, excipients, bottle size, shape, dispenser type, box, etc.).

40. Your interactions and Communications with SalonCentric regarding SalonCentric's sales, marketing, advertising, product placement (online and in-store), and sales of Olaplex's products and the Accused Products.

41. The reasons for purchasing and/or using and the advantages, benefits, or bases for preference or demand of the Accused Products and/or Olaplex's products, including when compared to any alleged competitor product(s), including but not limited to Eufora Pure Tech Professional Treatment; Davines Glorifying Anti-Age Elixir; Affinage ASP Kitoko Advanced Hair Therapy Protein Additive; Color Express Ultra One; Farouk Transformation Bonder; Snaplex; B3 Brazilian Bond Builder; Cureplex; ColorpHlex; HT Bondex; Bondplex; DS Laboratories Continuum; Ultra Bond Seal v2.1; Eslabondexx; Newsha Private Hair Care Colorwatch System Extract & Cream; Amika Virgin; FHI Heat Neobond; Nubond Bond Therapy System; Schwarzkopf Fibreplex; Schwarzkopf BlondMe; Schwarzkopf IGORA; Sexy Hair Bond-Ing Breakage Prevention System; Dennis Bernard 4Plex; Eufora Color Elixir; DiksoPlex; Link-D, MagiBond; Nirvelplex; Omniplex; Oplex; SealPlex Hair Defender; SilaPlex; Tech K-Plex; Violet PLEX; BondPro+ by Goldwell; Celeb Luxury BondFix Conditioner; Wellaplex; and Wonderplex, and any other alleged competitor product identified by You in this Action.

42. Your knowledge of products that compete with the Accused Products and/or Olaplex's products anywhere in the world, the distributors that distribute both the competitor product(s) and any of the Accused Products and/or Olaplex products, the channels in which both the competitor product(s) and any of the Accused Products and/or Olaplex products are offered for sale and/or sold, the market which the competitor product(s) are a part of, the market share by units and revenue for each Accused Product by distributor in that market, the market share by units and revenue for Olaplex products by distributor in that market, and the market share by units and revenue for each of the competitor product(s) by distributor in that market.

43. Your strategy and efforts in talent recruitment, including all efforts to hire Drs. Eric Pressly and Craig Hawker and the identity of any of Defendants' employees or consultants who participated in such efforts.

44. Your practices and policies in acquiring third party targets, including but not limited to working with L'Oréal S.A. on such activities related to Olaplex.

45. Your practices and protocols for the development and maintenance of segregated information departments (*e.g.*, "clean rooms" or "clean teams") to maintain and process confidential information received from third party targets for acquisition, licensing or other business opportunities, including but not limited to related to Olaplex.

46. L'Oréal S.A.'s access to Olaplex's Trade Secrets, Olaplex Confidential Information, including information stored in Your "clean room," and Your documents containing any such information, such as meeting minutes related to Your potential acquisition of Olaplex or licensing of Olaplex's Asserted Patents, and the location and storage of such information whether physically or on Your servers.

47. The identity of Persons who were employed by You and/or L'Oréal S.A. who worked on, researched, assisted, or otherwise have knowledge of the development, marketing and/or sale of the Accused Products and Olaplex's products, but who are no longer employed by You and/or L'Oréal S.A.

48. All documents and communications You received from or sent to Dean Christal, Dr. Eric Pressly and/or Dr. Craig Hawker relating to Olaplex's technology described and claimed in the Asserted Patents, including but not limited to U.S. App. No. 14/713,885, U.S. Pat. No. 9,326,926, and U.S. Prov. App. No. 61/994,709,

49. Your interactions with SalonCentric relating to Olaplex, including but not limited to Olaplex's Asserted Patents, Olaplex Trade Secrets, Olaplex Confidential Information and Your potential acquisition of Olaplex or licensing of Olaplex's Asserted Patents.

50. All facts and knowledge regarding Your or L'Oréal S.A.'s patents and applications relating to the Accused Products, including but not limited to U.S. Provisional Application Nos. 62/155,900 and 62/155,931, both filed on May 1, 2015, and 62/259,564, filed on November 24, 2015, which led to the issuance of U.S. Publication Nos. 2018-0042830 and 2017-0246094, respectively, including the date(s) any invention disclosure statement or the like related to the inventions described or claimed therein was prepared and all corroborating documents.

51. The monetary value or other benefit(s) to You of the Accused Products, including the perceived value at the time such Accused Products were launched, as well as the perceived impact of the value of the Accused Products on other of Your products.

52. Your pricing policies, strategies, and practices regarding the Accused Products and any products or services sold or provided in combination with the Accused Products

including sell thru products, convoyed sales, increased services, cost savings, or any other benefits.

53. Products or services, separate from the Accused Products, provided by You to Your customers when they purchase or pay for an Accused Product, and Your revenues, profits, profit margins before taxes, and costs associated with each such Product or service.

54. The identity of Your customers purchasing or using the Accused Products, the number of such customers that You have and have had each year, the turnover rate of such customers, the cost of customer acquisition, the cost of customer retention, and the rate of conversion of Olaplex customers to customers of the Accused Products.

55. Valuation of the Accused Products, regardless of the reason the valuation was performed or made, including without limitation, valuation in the context of licensing, marketing, sale, assignment, attempts to monetize, corporate transactions, or other commercialization.

56. The effect of the Accused Products and technology on Your business, including on sales, recruiting and retaining customers, or any other commercial benefits.

57. Any researched, planned, implemented, or known design-arounds for each of the Asserted Patents, including the removal of maleic acid from the Accused Products, and for each such alternative the details of Your consideration, if any, for inclusion in Your Accused Products.

58. Your patent-clearing policies and procedures, as well as policies and procedures for reviewing potential licensing needs including but not limited to any patent licenses or agreements related to the Accused Products or technology.

59. Any opinion of counsel (whether oral or written) with respect to the Asserted Patents, and the foundation of Documents that discuss, refer to, or evidence the same.

60. Your first contemplation, knowledge, and/or awareness of the reasonable possibility and/or foreseeability of litigation with Olaplex.

61. Your litigation hold, Document preservation and Document destruction policies related to this Action, including but not limited to the date(s) that You issued any Document preservation or litigation hold notice, identification of each Person that received such a notice on each date(s) and Your collection, identification, redaction and production of Documents in this Action.

62. The steps You took in order to determine whether a copy of the Asserted Patents, including but not limited to LIQ 103 US Utility application, filed May 15, 2015 (U.S.S.N. 14/713,885), LIQ 103 PCT Application, filed May 15, 2015 (PCT/US2015/031166) and LIQ 104 Provisional application, filed April 24, 2015 (U.S.S.N. 62/152,220), or any information derived from the Asserted Patents including the foregoing applications, was in Your possession, custody or control between January 1, 2015 and November 19, 2015.

63. Any indemnity or defense agreements relating to the Accused Products in this case.

64. The existence, location, custodian, identification, and substance of any Documents created by, used by, or within the possession, custody, or control of You relating to the matters described in each of the Topics above.

65. The identity of Persons with knowledge regarding the matters described in each of the Topics above.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 1:17-cv-00014-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA	)	FILED UNDER SEAL
S/D, INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' OPPOSITION TO DEFENDANTS' MOTION IN LIMINE NO. 4 TO
EXCLUDE EVIDENCE OF OR REFERENCE TO POTENTIAL EMPLOYMENT OF
CRAIG HAWKER AND ERIC PRESSLY**

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Attorneys for Plaintiffs

May 8, 2018

Plaintiffs (“Olaplex”) oppose Defendants’ (“L’Oréal”) Motion *in Limine* No. 4 to Exclude Evidence of or Reference to Potential Employment of Craig Hawker and Eric Pressly (“Mot.”).

I. EVIDENCE OF L’ORÉAL’S ATTEMPT TO HIRE BOTH OF OLAPLEX’S INVENTORS ON THE SAME DAY IS HIGHLY PROBATIVE

Drs. Craig Hawker and Eric Pressly are Olaplex’s inventor-chemists. D.I. 732, at 2-3. They are inventors on both Asserted Patents. D.I. 636-1, Ex. A at 1, Ex. B at 1. They were responsible for the work underlying Olaplex’s technical trade secrets. D.I. 732, at 3-4. L’Oréal’s attempt to poach and hire-away these individuals is highly probative of Olaplex’s trade secret, punitive damages and willfulness claims: the evidence tends to circumstantially show that L’Oréal wanted Olaplex’s technology but could not develop it without access to Olaplex’s scientists and their know-how and planned to take it by any means necessary. The probative value of this evidence is not only the *fact* that L’Oréal attempted to recruit Drs. Hawker and Pressly (sufficient in itself), but also the *timing* of those attempts. The hair care industry spent decades before the launch of Olaplex working to correct damage from bleaching treatments, with only marginal success. D.I. 732, at 2. After Olaplex launched in the summer of 2014, L’Oréal devoted *months* of work—August 2014 to May 2015—secretly attempting, but failing, to replicate Olaplex. *Id.* at 4-7. This failure was despite that “determining the active ingredients and how the chemistry for Olaplex works” was “top priority.” *Id.* at 4. In the same timeframe, L’Oréal approached Olaplex’s founder and CEO Dean Christal in January 2015 claiming to be interested in a potential acquisition of the company. D.I. 19, at ¶¶ 6-7. When Mr. Christal refused to turn over Olaplex’s trade secrets without some form of protection, L’Oréal tried to recruit *both* of Olaplex’s inventors *on the same day* in March 2015 without telling Dean Christal. Mot. at 1. That failed recruitment effort nearly derailed L’Oréal’s “acquisition” talks, and Mr. Christal’s then counsel (Paul Hastings, which is now L’Oreal’s counsel in this matter) demanded a Non-Disclosure Agreement between the parties

with an employee non-solicit provision before talks could resume. D.I. 732, at 5. After the parties signed NDAs, on May 19, 2015, L'Oréal gained access to Olaplex's trade secrets under the NDAs. *Id.* at 6. L'Oréal never made an offer to acquire Olaplex, but nine days after May 19, 2015 the meeting, L'Oréal's documents indicate that it pivoted its development to Olaplex's trade secret technology. *Id.* at 6-7. This sequence of events gives rise to a powerful inference that Olaplex possessed valid trade secrets, which L'Oréal misappropriated. When viewed in context, L'Oréal's attempt to recruit Olaplex's inventors is plainly probative.¹

L'Oréal's argument that it was not "improper" for it to attempt to recruit Olaplex's inventors misses the point. Mot. at 2. Olaplex does not contend that L'Oréal was not permitted to approach Drs. Hawker and Pressly at the time that it did. Rather, L'Oréal's poaching efforts—at that time and in the context it occurred—is compelling evidence that (1) Olaplex's trade secrets were not generally known or readily ascertainable; (2) L'Oréal was unable to independently invent Olaplex; and (3) L'Oréal resorted to any means necessary to obtain Olaplex's secrets when proper channels failed.

L'Oréal's observations in its Motion that Olaplex's cosmetic chemistry expert (Douglas Schoon) does not mention L'Oréal's recruitment effort, and that Olaplex did not ask L'Oréal's corporate designee about it at deposition, show nothing. Mot. at 2. It is not the proper function of a testifying expert to act as attorney mouthpieces, methodically reciting record evidence regardless of whether it relates to their field of expertise.² Mr. Schoon is a cosmetic chemist who offers

¹ Further still, Drs. Hawker and Pressly were well-regarded polymer chemists years before L'Oréal's solicitation. It is striking that L'Oréal's "routine outreach to members of the scientific community" (Mot. at 1) happened to occur while L'Oréal was attempting to replicate Olaplex and "acquire" the company. L'Oréal is entitled to argue this was a pure coincidence; but that speaks to the weight, not the admissibility of the evidence.

² See D.I. 698 (Olaplex's *Daubert* motion of L'Oréal expert Thomas Schultz); D.I. 691 (same as to James Pooley); D.I. 687 (same as to Rhonda Harper).

opinions regarding (a) whether Olaplex's technical trade secrets were known or readily ascertainable; (b) the typical timeline required to develop and test products for salon use; and (c) whether L'Oréal could have independently developed the Olaplex technology in the time it claims—all topics that require technical or industry knowledge. D.I. 749, Ex. 1, at ¶¶ 5-11. No particular expertise is required to understand L'Oréal's attempted recruitment. Further, it is not clear what L'Oréal contends Olaplex should have asked L'Oréal's Rule 30(b)(6) corporate designee to avoid this Motion. *Cf.* Mot. at 2. There is no rule—and L'Oréal cites none—that a litigant waives reliance on relevant evidence not mentioned during a Rule 30(b)(6) deposition.

II. THERE IS NOTHING UNFAIRLY PREJUDICIAL ABOUT THE EVIDENCE

Notwithstanding moving pursuant to Rule 403, L'Oréal's motion identifies nothing that would be *unfairly* prejudicial about this evidence. As the Third Circuit has explained, “[Rule 403] does not offer protection against evidence that is merely prejudicial, in the sense of being detrimental to a party's case. Rather, the rule only protects against evidence that is unfairly prejudicial.” *Carter v. Hewitt*, 617 F.2d 961, 972 (3d Cir. 1980); *see also United States v. Wiseman*, 576 F. App'x 376, 379 (5th Cir. 2014) (“Relevant evidence is inherently prejudicial.”). L'Oréal's efforts to recruit Drs. Hawker and Pressly are logical, probative, and admissible evidence in this case. L'Oréal also has not shown why this evidence, which is quite simple, presents a danger of “confusing the issues” or “wasting time.” *See* Fed. R. Evid. 403.

III. CONCLUSION

Olaplex respectfully requests that the Court deny L'Oréal's Motion *in Limine* No. 4 to Exclude Evidence of or Reference to Potential Employment of Craig Hawker and Eric Pressly.

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**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

LIQWD, INC. and OLAPLEX LLC,

Plaintiffs,

V.

L'ORÉAL USA, INC., L'ORÉAL USA
PRODUCTS, INC., L'ORÉAL USA S/D, INC.,
and REDKEN 5TH AVENUE NYC, LLC,

Defendants.

C.A. No. 17-14-JFB-SRF

HIGHLY CONFIDENTIAL
FILED UNDER SEAL

DEFENDANTS' REPLY TO PLAINTIFFS' OPPOSITION TO DEFENDANTS'
MOTION *IN LIMINE* NO. 4 TO EXCLUDE EVIDENCE OF OR REFERENCE TO
POTENTIAL EMPLOYMENT OF CRAIG HAWKER AND ERIC PRESSLY

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Dated: May 13, 2019

Plaintiffs' Opposition ("Opp.") to Defendants' Motion *in Limine* No. 4 ("Mot.") offers nothing more than a made-up story to manufacture relevancy that does not exist. (Opp. at 2.) L'Oréal USA's routine outreach to potential job candidates including Olaplex scientists has no probative value and should be precluded from the jury.

First, secrecy cannot reasonably be inferred from L'Oréal USA's routine outreach, which occurred in early March 2015, before the parties had their first meeting in April 2015, without the assumption of improper motives.¹ Thus, Olaplex's relevancy argument assumes the ultimate issue to be proven—that L'Oréal USA acted to steal Olaplex's alleged trade secrets. (*See id.* at 2; D.I. 732 at 17; Mot. at 2.) **Second**, L'Oréal USA's outreach to Olaplex's scientists is irrelevant to Olaplex's claim of misappropriation, which hinges on its theory that L'Oréal USA somehow copied Olaplex's alleged trade secrets allegedly obtained through the parties' acquisition meeting. (Opp. 1-2.) The fact that L'Oréal USA reached out to Olaplex scientists (and did so before the parties met in April 2015) has no bearing on Olaplex's misappropriation claims. (Mot. at 2.) Olaplex's attempt to manufacture a scandal by referencing L'Oréal USA's routine recruitment efforts is pure speculation. (Mot. at 3.) Raising information relating to L'Oréal USA's recruitment efforts (including those involving the Olaplex scientists at issue here) would unfairly prejudice L'Oréal USA and confuse and mislead the jury by obfuscating Olaplex's theory of misappropriation with speculations of nefarious motives, and would invite the need for additional evidence and testimony that would waste trial time and resources to rebut such baseless accusations. Thus, L'Oreal USA's Motion *in Limine* No. 4 should be granted.

¹ Where a party obtains information through *improper means*, it is reasonable to infer that the information could not have been otherwise obtained, and thus is not generally known or readily ascertainable. (D.I. 732 at 17.) Here, Olaplex acknowledges that L'Oréal USA's outreach to Olaplex scientists is not itself improper. (Opp. at 2.)

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USA S/D, Inc. and Redken 5th Avenue NYC, LLC

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on May 13, 2019, true and correct copies of the foregoing document were caused to be served on the following counsel of record as indicated:

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**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D, INC.	)	FILED UNDER SEAL
and REDKEN 5 TH AVENUE NYC, LLC,)	
)	
Defendants.)	

**DEFENDANTS' MOTION *IN LIMINE* NO. 5 TO PRECLUDE REFERENCE TO PAUL
HASTINGS LLP AS FORMER COUNSEL TO OLAPLEX**

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USA S/D, Inc. and Redken 5th Avenue NYC, LLC*

I. SUMMARY OF ARGUMENT

Plaintiffs should be precluded from making any reference at trial to the fact that certain attorneys at Paul Hastings LLP (“Paul Hastings”), the law firm representing Defendants in this action, previously represented Plaintiffs in connection with other matters, years ago.

Specifically, Plaintiffs should be precluded from referencing the fact that Paul Hastings briefly represented Plaintiffs against a third-party in connection with a matter that was filed in January 2015 in Los Angeles Superior Court, *BehindtheChair.com, Inc. v. Christal* (the “BTC Litigation”). Plaintiffs also should be precluded from referencing the fact that certain corporate attorneys at Paul Hastings served as counsel to Olaplex LLC in connection with the non-disclosure agreement (“NDA”) it executed with L’Oréal USA, Inc. Paul Hastings’ prior representation is irrelevant, as it has no bearing on any issue to be decided by the jury. Fed. R. Evid. 402. *Grizzle v. Gen. Growth Props., Inc.*, 2011 WL 7268176, at *3 (W.D. Okla. Oct. 12, 2011) (precluding evidence relating to an unproven conflict of interest between plaintiff’s expert and defendants’ counsel as irrelevant). This information also should be excluded as substantially more prejudicial than probative, and likely to lead to juror confusion. Fed. R. Evid. 403. In this litigation, Plaintiffs have made references to the fact that Paul Hastings previously represented Plaintiffs, even going so far as to suggest that the very attorneys involved in this matter were involved in prior matters on behalf of Plaintiff, when there is no truth to that assertion. (See D.I. 724, Ex. 20 at 11:24-12:18.) None of the Paul Hastings attorneys involved in this matter had any involvement in the BTC Litigation or the NDA. As such, any reference to Paul Hastings’ representation in these matters should be excluded pursuant to Federal Rules of Evidence 402 and 403.

II. PAUL HASTINGS' PRIOR REPRESENTATION OF PLAINTIFFS SHOULD BE EXCLUDED AS IRRELEVANT AND SUBSTANTIALLY MORE PREJUDICIAL THAN PROBATIVE.

Plaintiffs should be precluded from referencing the fact that the law firm representing Defendants previously performed some work for Plaintiffs. This information is irrelevant to any issue that would properly be before the jury. Indeed, the introduction of such evidence would do little more than suggest that Plaintiffs were somehow disadvantaged by a hypothetical conflict of interest or have credible claims since Defendants' counsel at some point represented Plaintiffs. Courts routinely grant motions *in limine* excluding such evidence as both irrelevant and unduly prejudicial.

Grizzle v. General Growth Properties, Inc. is instructive. In *Grizzle*, defendants moved *in limine* "to prevent Plaintiff from offering evidence related to a dispute between one of her experts . . . and the law firm representing Defendants." 2011 WL 7268176, at *3. The law firm representing defendants previously represented plaintiff's expert, and that relationship subsequently soured. *Id.* The court granted a motion *in limine* prohibiting any reference to this representation, holding that it was irrelevant. *Id.* Specifically, the court reasoned that "the representation of [plaintiff's expert] was on a totally unrelated matter and," as here, was done "by different members of the law firm." *Id.* Moreover, as here, defendants' counsel "affirmatively stated that there is no communication between the two sets of attorneys and that the issue has been walled off." *Id.*

Unlike the *Grizzle* plaintiffs, Plaintiffs have not even made an allegation of impropriety. As such, they should not be permitted to use the unproven specter of a conflict of interest to gain an unwarranted advantage at trial. *See PSM Holding Corp. v. Nat'l Farm Fin. Corp.*, 2007 WL 4404271, at *2 (C.D. Cal. May 18, 2007) (granting motion *in limine* to preclude evidence of a conflict of interest in representing defendants in the instant action).

Plaintiffs should be precluded from referencing at trial the fact that Paul Hastings previously represented Plaintiffs in any capacity.

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I hereby certify that on May 1, 2019, true and correct copies of the foregoing document were caused to be served on the following counsel of record as indicated:

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C. A. No. 1:17-cv-00014-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA	)	FILED UNDER SEAL
S/D, INC., and REDKEN 5 TH AVENUE)	
NYC, L.L.C.,)	
)	
Defendants.)	

**PLAINTIFFS' OPPOSITION TO DEFENDANTS' MOTION IN LIMINE NO. 5 TO
PRECLUDE REFERENCE TO PAUL HASTINGS LLP AS FORMER COUNSEL TO
OLAPLEX**

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Attorneys for Plaintiffs

May 8, 2018

Plaintiffs (“Olaplex”) oppose Defendants’ (“L’Oréal”) Motion *in Limine* No. 5 to Prelude Reference to Paul Hastings LLP as Former Counsel to Olaplex (“Motion” or “Mot.”).

I. THE IDENTITY OF OLAPLEX’S COUNSEL DURING A CRITICAL PERIOD IN THIS CASE IS PROBATIVE

Olaplex alleges that L’Oréal breached a pair of May 2015 non-disclosure agreements (“NDAs”) between it and L’Oréal. D.I. 636, at 41. Two of L’Oréal’s Counterclaims are for purported breach of the same NDAs. D.I. 650, at 72-79. L’Oréal also alleges that, during the negotiation and execution of those NDAs, Olaplex was committing a fraud by false promise because—under L’Oréal’s implausible theory—Olaplex orchestrated the acquisition talks that L’Oreal approached Olaplex about as an elaborate scheme to plant the suspicion of trade secret misappropriation so that Olaplex could initiate this lawsuit years later. *Id.* at 69-72.

Identification of Paul Hastings is relevant and probative of Olaplex’s fraud defense:

Paul Hastings represented Olaplex throughout the period that L’Oréal alleges fraud, specifically in connection with negotiating the NDAs that L’Oréal now claims was a Trojan Horse for Olaplex’s deception. To fully defend itself against L’Oréal’s fraud claim, Olaplex must be permitted to put on evidence of all circumstances surrounding the allegedly fraudulent negotiations, including the fact that Olaplex retained and was represented by the same large, well-respected law firm that L’Oreal hired to represent it and file a claim for breach of the very same NDAs that Paul Hastings negotiated on behalf of Olaplex; these actions make the existence of deceptive intent null. Olaplex should be allowed to argue to the jury, among other defenses, that the Paul Hastings law firm represented it during the negotiation of the NDAs, did not and would have never facilitated the fraudulent scheme that L’Oréal’s Paul Hastings counsel now alleges.

That is probative evidence that it is not unfairly prejudicial to *L'Oréal* in the least. *See* Fed. R. Evid. 403.¹

Olaplex's retention of Paul Hastings LLP is probative of protecting its trade secrets: One of L'Oréal's defenses to Olaplex's trade secret claims is that Olaplex failed to exercise reasonable efforts to protect its trade secrets. *See, e.g.*, D.I. 650, at 29. Indeed, L'Oréal charges that Olaplex failed to enter into adequate and sufficient NDAs with individuals and companies who may have had access to Olaplex's trade secrets. D.I. 720, Ex. 6, at 8-10. To establish reasonable efforts, Olaplex is entitled to inform the jury of *all* the ways by which it endeavored to protect its trade secrets, including retaining the same large, reputable law firm that L'Oreal is now using to negotiate the NDAs on behalf of Olaplex in connection with acquisition talks with L'Oreal. That Olaplex was advised by the same law firm presently representing L'Oréal makes it more likely that Olaplex exercised reasonable care.

II. L'ORÉAL HAS IDENTIFIED NO UNFAIR PREJUDICE FROM THIS EVIDENCE

Notwithstanding a motion pursuant to Rule 403, L'Oréal has not identified anything unfairly prejudicial about identifying for the jury the law firm that represented Olaplex during the negotiation of the NDAs on which both parties have filed suit. As L'Oréal states in its Motion, "Plaintiffs have not even made an allegation of impropriety." Mot. at 2. With no allegation of impropriety in this lawsuit, it is not clear what prejudice could stem from Olaplex introducing and identifying its lawyers.

Despite representing that courts "routinely" grant motions like this, L'Oréal directs the Court to a total of two cases, neither of which is on point. First, *Grizzle v. General Growth*

¹ Paul Hastings LLP is not a party in this lawsuit. Potential embarrassment regarding its representation of the Plaintiffs in this action, notwithstanding a longstanding institutional relationship with L'Oréal, is not grounds to hide evidence through an order *in limine*.

Properties, Inc., 2011 WL 7268176 (W.D. Okla. Oct. 12, 2011) was a personal-injury case about an attack in a mall parking lot. *Id.* at *1. The Defendants moved *in limine* to exclude “Allegations of Conflict of Interest” between one of plaintiff’s *experts* (not the plaintiff herself) and the defendants’ law firm because the defendants’ law firm had previously represented the plaintiff’s expert “on a totally unrelated matter.” *Id.* at *3. In this proceeding, Olaplex seeks to inform the jury that it retained Paul Hastings LLP *to negotiate the NDAs on its behalf against L’Oréal* that are at the heart of this case. Furthermore, Paul Hastings’s representation of Olaplex was not “on a totally unrelated matter” (*cf.* Mot. at 2), but went to a central and critical part of this case: negotiating and executing the NDAs under which Olaplex disclosed trade secrets to L’Oréal, which L’Oréal now alleges was a fraud. Second, *PSM Holding Corp. v. National Farm Financial Corp.*, 2007 WL 4404271 (C.D. Cal. May 18, 2007) is a pre-trial order granting and denying motions *in limine* without explanation. The granted motion L’Oréal appears to seize upon was “To Preclude Evidence of Whether Chao has Considered a Malpractice Claim Against Dillingham & Murphy, LLP and John Camozzi, or Whether Camozzi’s Malpractice Carrier Has Been Put on Notice of a Potential Claim, or That There is a Conflict of Interest in Representing Defendants in this Action.” *Id.* at *2. Olaplex will not be asserting at this trial that Paul Hastings committed malpractice (it is not a party), nor inquiring as to whether Paul Hastings’s malpractice insurance carrier has been notified of a potential claim. There is no reasoning in the cited opinion that supports the relief L’Oréal seeks here.

III. CONCLUSION

Olaplex respectfully requests that the Court deny L’Oréal’s Motion *in Limine* No. 5 to Prelude Reference to Paul Hastings LLP as Former Counsel to Olaplex.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)	
)	
Plaintiffs,)	
)	
v.	)	C.A. No. 17-14-JFB-SRF
)	
L'ORÉAL USA, INC., L'ORÉAL USA	)	CONFIDENTIAL –
PRODUCTS, INC., L'ORÉAL USA S/D, INC.	)	FILED UNDER SEAL
and REDKEN 5 TH AVENUE NYC, LLC,)	
)	
Defendants.)	

**DEFENDANTS' REPLY IN SUPPORT OF THEIR MOTION *IN LIMINE* NO. 5 TO
PRECLUDE REFERENCE TO PAUL HASTINGS LLP AS FORMER COUNSEL TO
OLAPLEX**

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Plaintiffs’ explanation as to why they wish to reference Paul Hastings’ prior representation of Olaplex demonstrates their intent to prejudice Defendants and the significant risk of misleading the jury. Plaintiffs intend to reference Paul Hastings’ assistance in negotiating the NDA to rebut Defendants’ claim that Olaplex’s professed interest on an acquisition was fraudulent, so as to suggest that Plaintiffs could not have possibly orchestrated such a scheme via a “large, well-respected” law firm like Paul Hastings. (Opp. at 1.) This argument presupposes that the Paul Hastings team at that time was privy to Plaintiffs’ scheme, when the record shows that Paul Hastings’ involvement was limited to negotiations of the NDA itself, not the acquisition. (See Ex. A at 12:1-20; 13:9-14:3.) Moreover, even if such evidence existed, Plaintiffs do not explain why they would need to reference “Paul Hastings”—rather than the fact that they were represented by counsel — to make this point. The same can be said of Olaplex’s argument that identification of Paul Hastings is relevant to Plaintiffs’ trade secret misappropriation claims. The fact that Paul Hastings¹ helped negotiate the terms of the NDA does not establish that Plaintiffs took care to guard their trade secrets. And again, Plaintiffs do not explain why they would need to identify “Paul Hastings” by name to make this point.²

Contrary to Olaplex’s contention, the fact that Olaplex has not expressly asserted a conflict of interest (because there is none) is immaterial. There is a significant risk that, once mentioned, the jury will surmise that some conflict disadvantaged Olaplex—otherwise there would be no reason for Plaintiffs’ desire to use Paul Hastings’ name. The Court should eliminate this risk by precluding any reference to Paul Hastings’ prior representation of Plaintiffs.

¹ To be clear, none of the attorneys representing Defendants in this case had any involvement in that representation.

² Defendants also moved to exclude reference to Paul Hastings’ brief representation of Plaintiffs in *BehindtheChair.com, Inc. v. Christal*. Plaintiffs did not oppose this request, conceding the matter’s irrelevance, and the danger of prejudice associated therewith.

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EXHIBIT

A

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Page 1

UNITED STATES DISTRICT COURT
DISTRICT OF DELAWARE

LIQWD, INC. and OLAPLEX LLC,)
)

Plaintiff,) CASE NO.

) 17-cv-14-SLR
)

vs.)
)

L'OREAL USA, INC., L'OREAL)
)

USA PRODUCTS, INC. and)
)

L'OREAL USA S/D, INC.,)
)

L'OREAL S.A. and REDKEN 5TH)
)

AVENUE NYD, LLC,)
)

Defendants.)
)

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VIDEOTAPED DEPOSITION OF DAVID HERNAND
WEDNESDAY, DECEMBER 19, 2018

9:05 A.M.

Pages 31-34

REPORTED BY: KATHERINE FERGUSON, RPR, CSR NO. 12332
JOB NO. 152736

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Page 10	Page 11
<p>1 MR. HELM: I'm sure when you show him the 09:11 2 e-mails he'll be able to answer that. 09:11 3 MR. SCHMIDT: Sure. 09:11 4 BY MR. SCHMIDT: 09:11 5 Q Do you remember when the attorney/client 09:11 6 relationship between you and Olaplex ended? 09:11 7 MR. HELM: Vague and ambiguous. 09:11 8 MR. ELLIS: Objection, calls for a legal 09:11 9 conclusion. 09:11 10 A It's not entirely clear because we 09:11 11 transitioned a matter over and we assisted to another 09:11 12 law firm of an active litigation matter, not 09:11 13 unrelated to this matter. And we were assisting in 09:12 14 moving that litigation over. I don't remember the 09:12 15 exact timeframe, although I think it was sometime in 09:12 16 June. So our representation I think -- I think was 09:12 17 June, but I don't remember exactly. 09:12 18 BY MR. SCHMIDT: 09:12 19 Q The June following the December when the 09:12 20 representation began? 09:12 21 A Right, I think so. 09:12 22 Q What law firm were you transitioning the 09:12 23 matter over to? 09:12 24 A McKool Smith. 09:12 25 Q And was the matter that you referred to 09:12</p>	<p>1 litigation? 09:12 2 A Correct. 09:12 3 Q Do you recall the name of the litigation? 09:12 4 A The adverse party was Behind The Chair. 09:12 5 Q Do you remember where that litigation was 09:12 6 venues? 09:12 7 A I think it was Los Angeles. Behind The 09:12 8 Chair, I believe, is in Chicago. 09:12 9 Q During your representation of Olaplex, is 09:13 10 it true that you were a partner with Paul Hastings 09:13 11 the entire time? 09:13 12 A Yes. 09:13 13 Q During your representation of Olaplex, do 09:13 14 you recall L'Oreal becoming interested in acquiring 09:13 15 Olaplex? 09:13 16 A Yes. 09:13 17 Q Can you tell me the timeframe that that 09:13 18 interest first began? 09:13 19 A It was in the -- I believe it was in the 09:13 20 spring or early -- I believe it was in the spring of 09:13 21 that period of representation. 09:13 22 Q Is it true that you represented Olaplex in 09:13 23 negotiations with L'Oreal for L'Oreal's perspective 09:13 24 acquisition of Olaplex? 09:14 25 A Yes. 09:14</p>
Page 12	Page 13
<p>1 Q Did you communicate with representatives 09:14 2 from L'Oreal about their interest in acquiring 09:14 3 Olaplex? 09:14 4 MR. HELM: Vague and ambiguous. 09:14 5 A I communicated with them directly only in 09:14 6 the context of negotiating an NDA. And I suppose 09:14 7 from that I could infer that if they were engaging in 09:14 8 negotiations of an NDA, that they had interest in 09:14 9 acquiring the company. That was certainly the 09:14 10 subject of the NDA. But I didn't have any direct 09:14 11 discussions with them about their interest. 09:14 12 BY MR. SCHMIDT: 09:14 13 Q Okay. So is it fair to say that you were 09:14 14 involved in negotiating the NDA between Olaplex and 09:14 15 L'Oreal, but not the substantive terms of the 09:14 16 proposed acquisition? 09:15 17 MR. HELM: You're talking about in 09:15 18 connection with his discussions with L'Oreal? 09:15 19 MR. SCHMIDT: Correct. 09:15 20 A Yes. 09:15 21 BY MR. SCHMIDT: 09:15 22 Q Do you remember who you communicated with? 09:15 23 A No, but I believe they -- I believe they 09:15 24 were inside counsel. 09:15 25 Q For L'Oreal? 09:15</p>	<p>1 A For L'Oreal. 09:15 2 Q Do you remember, during those negotiations, 09:15 3 drawing a distinction between different L'Oreal 09:15 4 entities that you were communicating with? 09:15 5 MR. HELM: Vague and ambiguous. 09:15 6 A Do I remember drawing a distinction, no, I 09:15 7 don't remember what I was thinking about at the time. 09:15 8 BY MR. SCHMIDT: 09:15 9 Q Do you remember discussing with L'Oreal 09:15 10 what prompted their interest in acquiring Olaplex? 09:15 11 A No. 09:15 12 Q Are you saying that you can't remember or 09:15 13 are you sure that those sorts of conversations didn't 09:16 14 happen? 09:16 15 A I -- well, I don't remember any, that is a 09:16 16 correct statement, and nor would I have had reason to 09:16 17 engage in discussions about why they wanted to buy 09:16 18 the company. 09:16 19 Q Okay. Understood. 09:16 20 A I was dealing with a large conglomerate and 09:16 21 I was asked to -- I was putting an NDA in place, so I 09:16 22 was focussed on putting an NDA in place. 09:16 23 Q And you may have already answered this, but 09:16 24 I'll ask again. 09:16 25 During these negotiations of the NDA, the 09:16</p>

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Bound Separately

<p style="text-align: right;">Page 14</p> <p>1 potential terms of the acquisition never came up; is 09:16 2 that true? 09:16 3 A Correct. 09:16 4 MR. HELM: In his discussions with L'Oreal? 09:16 5 MR. SCHMIDT: Correct. 09:16 6 A Correct. 09:16 7 BY MR. SCHMIDT: 09:16 8 Q Do you recall, during this time, 09:16 9 communicating with L'Oreal about any intellectual 09:16 10 property owned by Olaplex? 09:17 11 A Only inasmuch as we negotiated the terms of 09:17 12 an NDA for Olaplex and then decided to also have an 09:17 13 NDA, I think we did, for Liqwd. And my understanding 09:17 14 had been that Liqwd was the owner of patents relevant 09:17 15 to Olaplex. And so to the extent that the 09:17 16 discussions were going to relate to the brand and the 09:17 17 product Olaplex and the underlying technology, that 09:17 18 there would be a separate NDA with Liqwd as well. So 09:17 19 I believe there would have been some discussion with 09:18 20 L'Oreal about it. 09:18 21 MR. HELM: Got it. I wanted to make sure 09:18 22 you were talking about discussions with L'Oreal? 09:18 23 THE WITNESS: Yes. 09:18 24 MR. HELM: Did you finish your answer? 09:18 25 THE WITNESS: Yeah. 09:18</p>	<p style="text-align: right;">Page 15</p> <p>1 BY MR. SCHMIDT: 09:18 2 Q Do you recall discussing with L'Oreal the 09:18 3 reason, if any, for their interest in acquiring 09:18 4 Olaplex's intellectual property? 09:18 5 MR. HELM: Asked and answered. 09:18 6 A No. 09:18 7 BY MR. SCHMIDT: 09:18 8 Q You mentioned earlier a nondisclosure 09:18 9 agreement that you're involved in negotiating. 09:18 10 A Uh-huh. 09:18 11 Q Do you remember what the purpose of that 09:18 12 nondisclosure agreement was? 09:18 13 MR. HELM: Instruct you not to answer. 09:18 14 Attorney/client privilege. If you want to ask him if 09:18 15 he discussed the purpose with L'Oreal, I'll let him 09:19 16 answer that. 09:19 17 BY MR. SCHMIDT: 09:19 18 Q Did you discuss the purpose of a 09:19 19 nondisclosure agreement that was being negotiated 09:19 20 with L'Oreal at this time? 09:19 21 A I don't think I discussed the purpose. 09:19 22 Q A nondisclosure agreement was eventually 09:19 23 executed, correct? 09:19 24 A I don't know. I don't recall that. I 09:19 25 recall negotiating it. It's possible that the act of 09:19</p>
<p style="text-align: right;">Page 16</p> <p>1 executing was left to the parties. I simply don't 09:19 2 recall. 09:19 3 MR. SCHMIDT: Okay. I'm going to mark the 09:19 4 next two exhibits. 09:19 5 MR. ODOM: Start at 460. 09:19 6 MR. SCHMIDT: We'll take care of it mark 09:19 7 these provisionally. 09:19 8 (Exhibits 462-463 were marked for 09:20 9 identification.) 09:20 10 BY MR. SCHMIDT: 09:20 11 Q Sir, I placed before you the next two 09:20 12 exhibits in order -- 09:20 13 A Uh-huh. 09:20 14 Q -- which we're marking at this time as 09:20 15 Exhibits 3 and 4. We'll renumber at a later time. 09:20 16 Starting at Exhibit 3 it's a document ending in Bates 09:20 17 number 96270. This looks to be e-mail communications 09:20 18 between yourself and Marshall Gringauz at L'Oreal; is 09:20 19 that correct? 09:20 20 A Uh-huh. 09:20 21 MR. HELM: You have to say yes. 09:20 22 THE WITNESS: Sorry, yes. 09:21 23 BY MR. SCHMIDT: 09:21 24 Q Are you familiar with these communications? 09:21 25 MR. HELM: Vague and ambiguous. 09:21</p>	<p style="text-align: right;">Page 17</p> <p>1 A This appears to be an e-mail chain that I 09:21 2 sent or involving me and the L'Oreal attorney, yes. 09:21 3 BY MR. SCHMIDT: 09:21 4 Q Does what's been premarked as Exhibit 3 09:21 5 look to be a true and accurate copy of e-mail 09:21 6 communication between yourself and Mr. Gringauz? 09:21 7 MR. HELM: Why don't you flip through, 09:21 8 Mr. Hernand. He's asking you about the whole doc. 09:21 9 A It appears to be, yes. 09:21 10 BY MR. SCHMIDT: 09:21 11 Q Who is Mr. Gringauz? 09:21 12 A I assume that he is an inhouse attorney at 09:21 13 L'Oreal, but I don't know for sure. But clearly from 09:21 14 this record, I was interacting with him, 09:21 15 negotiating -- me and my associate were interacting 09:22 16 with him and negotiating the NDA. 09:22 17 Q Do you recall what L'Oreal entity he was an 09:22 18 inhouse attorney for? 09:22 19 A No. 09:22 20 Q I want to draw your attention to the first 09:22 21 page, about halfway down, there's an e-mail from 09:22 22 Mr. Gringauz dated May 18th. 09:22 23 A Uh-huh. 09:22 24 Q He says, "Hi David, just wanted to check 09:22 25 back to see if you were able to get Dean's 09:22</p>

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on May 13, 2019, true and correct copies of the foregoing document were caused to be served on the following counsel of record as indicated:

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